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The OIL WEEKLY

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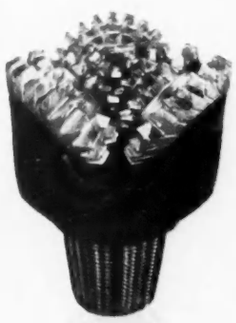

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15 CENTS PER COPY March 11, 1948 VOLUME 121, NUMBER 2

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THE OIL MAN'S CALENDAR

MAR. 21–22	Southern Gas Association, Galveston Hotel Galvez.
APRIL 1– 2	Society of Exploration Geophysicists, Annual Meeting, Chicago, Stevens Hotel.
2	FPC Gas Hearing, Charleston, W. Va., State Capitol.
2– 4	American Association Petroleum Geologists, Annual Meeting, Chicago, Stevens Hotel.
8–10	Mid-West Gas Association, Annual Convention, St. Paul, Minn., St. Paul Hotel.
11–12	Pacific Coast District, Production Division API, Spring Meeting, Los Angeles, Biltmore Hotel.
11–13	Quarterly Meeting, Interstate Oil Compact Commission, Tulsa.
17–19	Natural Gasoline Association of America, Annual Convention, Dallas, Baker Hotel.
18–19	National Petroleum Association, Semi-annual Meeting, Cleveland, Ohio, Hotel Cleveland.
29–30	And May 1, Independent Petroleum Association of America, Mid-Year Meeting, Houston, Rice Hotel.
MAY 7– 8	American Gas Association, Natural Gas Dept., Cincinnati, Hotel Gibson.
7– 9	National Association Corrosion Engineers, Kansas City, Missouri, President Hotel.
17–18	Southwestern District, Production Division, API, Spring Meeting, Shreveport, La., Washington-Youree Hotel.
23–25	National Oil Scouts and Landmen's Association, Annual Convention, Jackson Mississippi, Hotel Heidelberg.
28–29	American Petroleum Institute, Directors' Meeting, Fort Worth.
JUNE 7– 8	Mid-Continent District, Production Division, API, Spring Meeting, Oklahoma City, Skirvin Hotel.
7– 8	Kentucky Oil & Gas Association, Lexington, Ky., Hotel Lafayette.
13–14	Eastern District, Production Division API, Spring Meeting, Pittsburgh, Pa., William Penn Hotel.
NOV. 11–14	American Petroleum Institute Annual Meeting, Chicago, Stevens Hotel.

The OIL WEEKLY

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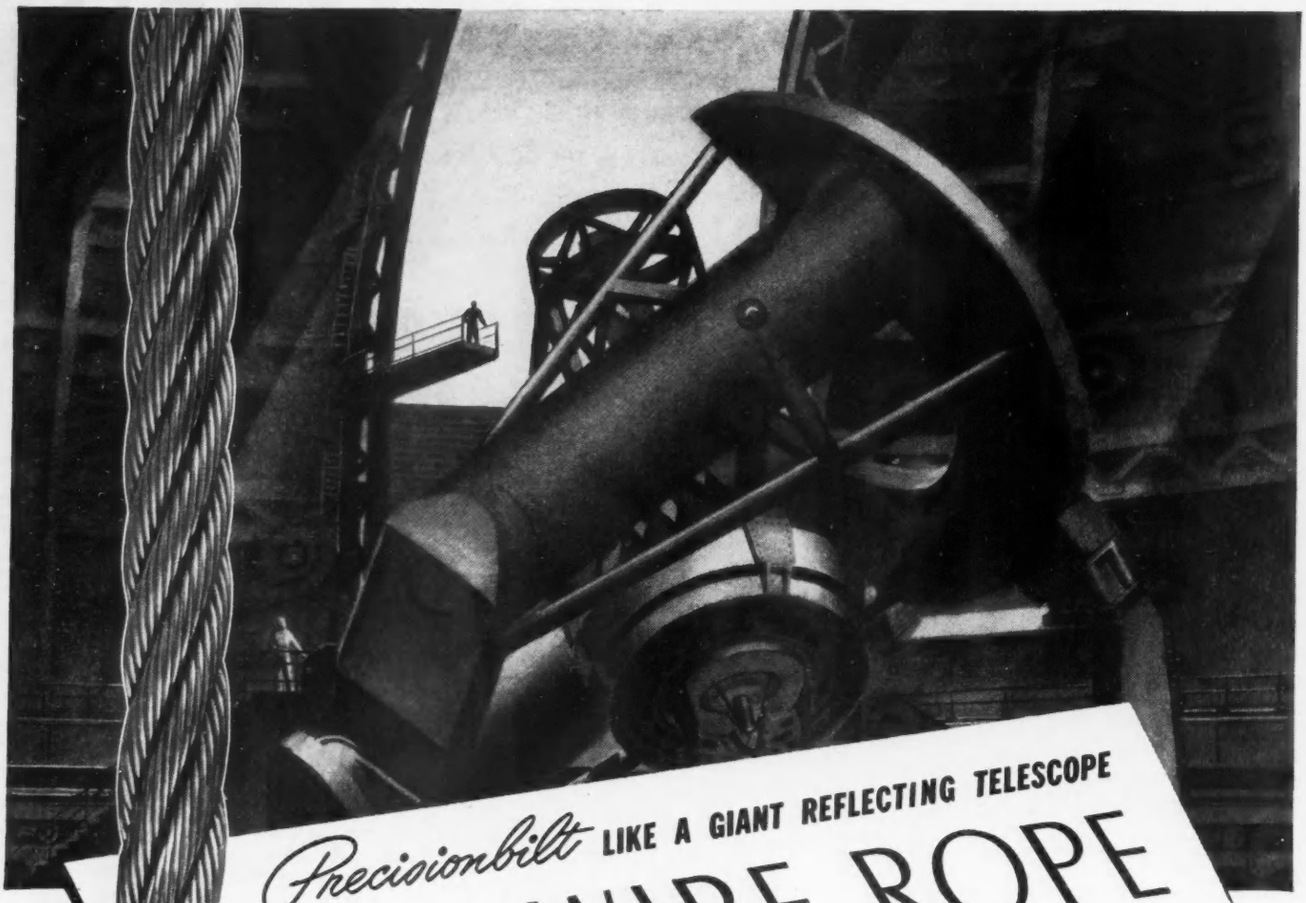

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The Changing Panorama

U. S. Oil Picture Steadily Changing

THE PANORAMA is changing steadily for the oil industry of the United States and the world, and 10 years from now a greatly altered picture will appear, as foreseen in an interesting paper presented at the annual meeting of the AIME at Chicago recently. (H. W. Page, economics department, Standard Oil Company, New Jersey: "Related Trends in Future Domestic and Foreign Petroleum Operations"; abstracted in THE OIL WEEKLY, March 4, 1946, page 16.)

From the standpoint of U. S. producers and refiners, probably the most significant changes in prospect are those which will result from advances in refining processes. These advances will further extend the progress of the past in making available the maximum amounts of gasoline and other more valuable products out of crude oil and will make possible increasing utilization of natural gasoline and natural gas for manufacture of those same high grade products. By the same token, the technological advances will further reduce the percentage of the unprofitable remaining by-product, residual fuel oil, after the processing of crude.

Refiners will profit most by making a minimum of residual fuel oil, which will always be limited in price by the competition of coal. Therefore, a great amount of refinery modernization is in prospect in the United States. At the same time, there will be much building of cycling plants in the gas-distillate producing areas and a further substantial increase in production of natural gasoline and condensate. From about 300,000 barrels daily at present, this production is expected to increase to at least 400,000 daily 10 years hence. Meanwhile, hydrocarbon synthesis (making of natural gas into gasoline) will be inaugurated upon commercial basis and be yielding an estimated 200,000 barrels of gasoline daily within 10 years.

These prospects for natural gasoline, condensate, and synthesis of natural gas have highly significant implications for producers as well as refiners. They mean that producers will extend their active interest increasingly to development of natural gas and less strictly to crude oil. These prospects at the same time emphasize for refiners that they must keep steadily abreast of the technological advances, constantly taking advantage of new and more efficient processes.

So important are these prospective developments that they promise to largely fulfill the increases in U. S. demand for gasoline and other light products over the next 10 years without any material increase meanwhile in the production of crude oil. The deficiency in residual fuel oil which thereby will be created will be supplied, it is expected, by increased imports of residual fuel itself and by limited increase in imports of heavy crudes, mostly from the Caribbean area, where there are relatively large reserves of the heavy crudes.

This outlook is viewed as very favorable for producer as well as refiner. It is anticipated that the domestic producer shortly will have firm market for all the crude he can find and produce at rates within maximum efficient withdrawal, while vigorous searching for new crude reserves will be necessary. For the refiner, higher yields of the more valuable products will be made possible through the extensive improvement of facilities which is in prospect for the immediate future; and the higher yields of premium products are expected to offset indicated rising costs.

Another important implication of the prospects as foreseen above is the implication that fears regarding adequacy of U. S. crude reserves may be at least 10 to 20 years premature, if not practically unjustified. The author of the paper evidently weighed carefully the prospects for demand for oils, took into consideration the technological advances, and found no difficulty in making items of supply equal the demand, even by projecting no net increase in the next 10 years in domestic production of crude. The apparent magic in this balancing is that involved in providing for 100,000 barrels per day of additional natural gasoline and condensate production and 200,000 barrels daily of gasoline made from natural gas.

Getting this 300,000 barrels per day of gasoline from natural gas will be equivalent to obtaining it from refinery runs of 715,000 barrels of crude per day, on the basis of the current average yield of about 42 percent straight run and cracked gasoline from crude at U. S. refineries. In effect, U. S. producers 10 years from now will not actually be producing over 700,000 barrels a day of additional crude which present processing facilities would require. Instead, they will be producing about the same amount of crude oil as now but will be producing additionally an increased volume of natural gas which will yield 300,000 barrels a day of liquid fuels, with refineries more efficient and new processes in use.

Pauley Discussion Gone a Little Astray

ED PAULEY, the California oil man, whose nomination for a position as under-secretary in the Department of Navy has been under heavy fire in a Senate committee for several weeks, and who was the target of a particularly hot blast by then Secretary of Interior Harold Ickes, asks a question which we think is rather pertinent.

Ickes had protested that no oil man ought to be a secretary or assistant secretary of the Navy. He gave as his reason that the Navy has under its jurisdiction oil lands and the natural inference was that an oil man might take advantage of his situation—or at least be in a position where his motives could be questioned.

Pauley pointed out that oil men were taken into the PAW, under direct control of Ickes, and that they had done a fine war job.

"Why," he asks in effect, "is an oil man so odious in some other governmental job?"

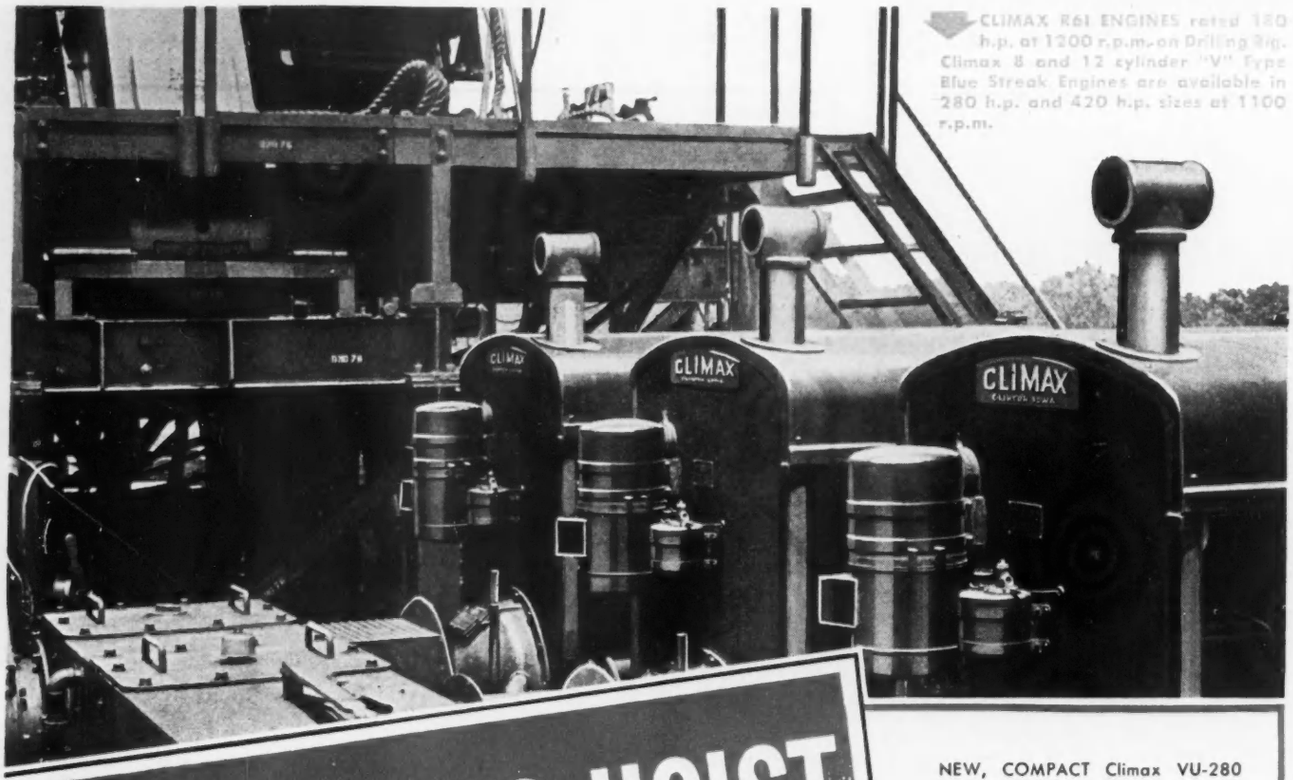
We would like to ask another question. If a man is unfit to be an assistant secretary of Navy, why was he fit to be a member of the Democratic National Committee?

In all the recriminations being hurled back and forth in Washington, it seems to us that some unnecessary things are being brought into play.

After all, is it any crime to be an oil man? There are good oil men and bad oil men, we must admit, just as there are good lawyers and bad lawyers. The fact that a U. S. Attorney General may have had a corporation as a client at some time in the past does not seem to disqualify him as an Attorney General.

After all, it is the man who counts and not his former occupation.

If Pauley is unfit to be an assistant Secretary of Navy, then why put it on that basis instead of intimating that he cannot be depended upon to do his duty because he is or was an oil man?



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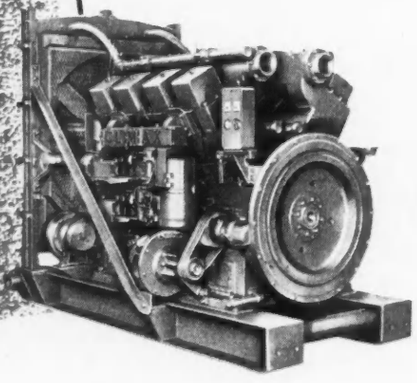

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The Week's News

ADMITTING for the first time that crude oil ceilings were inadequate, OPA last week announced that it would authorize a general increase of 10 cents a barrel, with a further increase to come should a spot check show that figure to be insufficient to restore producers profits to the 1936-39 level. Since price increases by OPA are not mandatory, the actual effect of this action will not be known for some days. Story below.

Krug Gets the Job—Nomination of Julius A. (Cap) Krug to be Secretary of the Interior was approved by the Senate Public Lands Committee and confirmed by the Senate itself with a total lack of opposition. Remembering the prewar activities of former Secretary Harold L. Ickes in the direction of federal regulation, the oil industry will watch the new Interior head—and petroleum administrator—closely until his position on the question of government control is definitely shown. Page 29.

Oil's Stake in British Loan—The British loan is facing its first hurdle before the Senate Banking and Currency Committee, where Treasury officials demonstrated that assistance to England has a very definite monetary importance for the oil industry. Page 27.

No Confab on Imports—State Department officials are reluctant at this time to discuss oil imports, as proposed by industry representatives who disclose that little progress has been made in programming the proposed new reciprocal trade agreement which the industry fears may lead to fresh cuts in the oil import excise taxes. Little is expected to be done along that line until after the international trade conference scheduled for later this year. Page 78.

Navy Needs Fuel—The Navy Department is worse off for fuel and diesel oils than it was during even the height of the war and has appealed to the industry to make voluntary plans for meeting its needs. Industry representatives are understood to question whether fuel oil yields can be much increased under present conditions. Story below.

Referendum on Public Leasing—The United States Chamber of Commerce is preparing to throw its support behind the drive for simplification and easing of leasing regulations and royalties on the public lands, seeing in those areas an important potential source of future oil supplies. Page 30.

Only Defense for Oil Plants—Analysis of the effect of allied bombing of Nazi oil facilities has led the War Department to the conclusion that the only protection of American plants against enemy destruction in the event of another war would be by the prevention of air attacks.

Bureau of Mines Forecast—Demand for crude oil during March will be 120,000 barrels daily greater than during February, the Bureau of Mines estimates. Page 31.

"Big Shot" Developments—A split casing has caused work to be suspended on the Canadian well that recently was shot with 5000 quarts of nitro. Page 27.

Mixed Feelings Noted as Oil Price Ceiling Is Upped 10 Cents by OPA

The oil industry received with mixed feelings the news that OPA had authorized a flat increase of 10 cents a barrel in crude price ceilings, to become effective before the end of March and to be absorbed at least temporarily by refiners.

Producers were glad to see an increase in prospect, although it was less than a third of what they had been working for. Refiners expressed the feeling that they would be hard hit unless they were promptly allowed to pass on to their customers a fair proportion of the increased costs brought about by both the proposed crude price increase and recent wage increases. At government insistence, refiners recently renegotiated wage scales calling for increase of 15 to 18½ cents per hour.

While it does not seem likely that plants actually will be shut down, independent refiners expressed a determination to fight the matter out lest ultimately they be forced out of business.

Representatives of large companies said that almost every integrated company, similarly, is a substantial buyer of crude oil and that they were hit right along with the independent refiners.

A meeting of the working sub-committee of the OPA National Refiners' Advisory Committee has been called for March 11 in Washington. This subcommittee is expected to work on a report to the main committee, which in turn will negotiate with OPA.

In the oil country there was some questioning whether crude prices actually would be increased in response to the 10-cent adjustment. It was speculated that some purchasers might hesitate to increase crude postings because of surplus gasoline and relatively low product prices. However, the consensus was that postings would be increased because of the definite need for making a start toward industry-wide price adjustments.

A crude raise would be supported, it was felt in some quarters, because of a generally firm market for crude. It was pointed out that good demand for crude has been evidenced in nominations of purchasers at recent state proration hearings; that some refiners have been actively looking for crude sources in West Texas and elsewhere, and might agree to pay proposed higher prices; that purchasers of crude must take a long-range view and assure themselves sources of supply in the future, with the result that there is considerable competition now for well connections and for long-term contracts with producers for their production over the next several years. In view of the prospects of strong demand for crude in the years ahead, it was felt that larger purchasers would hesitate to be in the position of opposing a crude raise initiated by another substantial purchaser.

Views of Industry

Comments on the OPA action by producers in the Southwest included:

Charles F. Roeser, Fort Worth, chairman of the OPA National Crude Oil Advisory Committee: "The pittance granted by the OPA comes under the realm of the ridiculous."

E. J. McCurdy, Jr., Fort Worth, president of the East Texas Oil Association: "It is wholly insufficient, but it is a start and shows OPA is beginning to think."

W. L. Stewart, Fort Worth, vice president of the Independent Petroleum Association of America: "It is inadequate and shows the need for removal of all oil price controls. There's no need to continue controls when supply exceeds demand, such as is the case with oil."

Glenn H. McCarthy, Houston, independent oil producer and chairman of the Statewide Committee of Oil Producers: "Oil operators consider any suggestion for a 10-cent price increase as an attempt only to relieve the pressure now being placed for a reasonable and justifiable increase . . . We know that we can justify an increase of more than 5 times that suggested by the OPA . . . We in-

Navy Asks for Further Supplies of Fuel Oils

Faced with a shortage of fuel oil, the Navy Department last week called in 32 industry representatives to seek means of obtaining 67,000 barrels of special fuel oil and 23,000 barrels of Diesel oil daily above present supplies.

Oil company representatives recited their difficulties since fuel output cannot be raised materially without further increases in already excessive gasoline supplies.

Navy Department officials expressed the view that the lack of supplies might be due in part to a higher price for other products than the fuel oils used for ships.

tend to continue this fight for removal of all price restrictions or for a proper increase in the price ceiling."

Must Be Passed Along

The OPA action followed many months of sustained pressure by the industry. The National Crude Oil Industry Advisory Committee had urged an immediate increase of 35 cents and consideration of still further relief.

It was pointed out, also, that the OPA's requirement that refiners absorb the increase in crude prices will wipe out the benefits of the higher prices for kerosine and heating oils granted for the winter season.

All elements in the industry were apparently agreed that any relief afforded by OPA anywhere along the line will be ineffective unless the higher prices can be passed along to the public.

Announced shortly before the House Banking and Currency Committee reaches the oil question in its hearings on extension of price control, industry representatives saw in the move an effort to take some of the heat off the expected demand for the lifting of oil control or, failing that, a broad reform in the price thinking of OPA officials. They predicted, however, that it will have no such effect.

OPA admitted that crude-price relief alone would not solve the industry's problem, and said meetings would begin at once with the National Refiners' Industry Advisory Committee, promising that the refiners would be assured earnings equal to those of the 1936-39 period, as required by the law.

Since refiners generally are now producing all major products except gasoline at capacity and have in sight an increasing export demand, OPA said that small high-cost refiners who experience operating losses because of the full absorption requirement may be able to benefit from individual adjustments of their ceiling prices for products sold either directly to industrial users or for export and which do not enter the general competitive field.

Price officials said further that they are considering whether to continue in effect the recent increases allowed on kerosine and heating oils, which will expire in the West on June 30 and in other sections two months earlier.

Spot Check Planned

A spot check of 15 or 20 companies by OPA accountants is to be made to bring up to date and determine the trend of the figures on which the agency has been considering the crude situation, which went only through 1944. This work will be started immediately. Further relief, if found necessary, may be granted as early as next month.

The crude-price increase will be authorized under the OPA's earnings standard, guaranteeing the 1936-39 return. It was emphasized that the increase was not based on cost of replacement, but on the industry's own accounting practice, which relates current operating costs to current production.

On the basis of a prospective 1946 production of 1 billion barrels of oil, the ten-cent increase will mean an additional $150 million a year to producers.

The announcement was disappointing to oil men in that it went far to dispel recently growing hopes that price control of oil would be abandoned in the near future.

Not Mandatory

The increased price will not be mandatory, and Washington officials believed that producers in some fields would be unable to get any advantage because of current supply conditions in some cases, transportation difficulties in others, as in the case of West Texas sour crude.

Some time probably will be required for the increase to permeate throughout the entire producing branch. Ceiling prices set by the government were explained as the top prices a producer could ask or accept, but the actual price received for the product may be less, as agreed upon by producer and purchaser. Accordingly, actual prices of crude will depend upon negotiations and, barring the inclusion of a saving clause, existing contracts for purchase would not be affected.

In seeking OPA authorization of higher residual fuel oil prices, the East Coast Fuel Oil Advisory Committee has proposed two alternative plans: (1) a flat 15 cents per barrel boost in ceiling prices, or (2) a gravity scale of graduated prices. The second plan is understood to have the most general support among refiners, although it is opposed particularly by jobbers and distributors, who say it would create competitive inequalities.

Drastic Measure Possible To Shut Off Waste Gas

The Texas Railroad Commission moved March 8 to stop gas waste in the Seeligson field when it scheduled a hearing for March 20 at Austin when operators must appear and show cause why the field should not be shut in unless the flared gas is put to some legal use. Commission officials estimated 2000 barrels of liquids daily were being blown into the air.

The proposal to shut in the field is the most drastic the commission has ever suggested.

Rubber Plant Sale

The War Assets Corporation last week began to divest itself of the synthetic rubber facilities built during the war.

Proposals for the sale or lease of the plant operated by Dow Chemical Corporation at Velasco, Texas, were invited through the WAC regional office in Houston. The plant has a rated capacity of 33,000 long tons per year.

Dual Completion Defense To Be Needed March 15

Operators at the Texas statewide proration hearing March 15 must be prepared to defend dual completions. The commission has come to the conclusion that this method of operation approved as a war measure when materials were short may not be needed longer.

The commission also has been led to believe that in some cases two allowables are being taken from one reservoir and that reservoirs have been connected through dually-completed wells. The plan is to take up generally the subject of dual completions. Possible result is cancellation of dual completion permits as soon as twin wells can be drilled.

Decision in Hawkins Field Case Is Reversed by Court

The Third Court of Civil Appeals at Austin last week handed down a decision which, if sustained by the Supreme Court, will change the course of Texas oil law. The suit, Humble Oil & Refining Company vs. the Railroad Commission which Humble won in the trial court, involved the method of allocation in the Hawkins field, Wood County.

The appellate court, reversed the trial court decision and rendered judgment for the Railroad Commission, holding that a well on a small tract must have an allowable large enough to permit a reasonable profit, and although a large operator may lose oil by drainage, there are other means of compensating him through proration.

The opinion, which was unanimous, also held that the commission's discretionary powers should not be subject to judicial review.

California Properties Are Purchased by Sunray

Sunray Oil Corporation, Tulsa, has contracted to purchase the producing oil properties of Bel-Air Oil Company of California and the refinery of Bell Oil & Refining Company of California, all located in the Santa Maria area, Santa Barbara County, California.

The properties consist of 1200 acres of leases on which 25 wells are producing 4500 barrels daily asphalt base oil together with a gathering system connecting with the refinery. Other well locations remain to be drilled.

Sunray has an interest in 67 wells in the Wilmington basin of Los Angeles County, California.

Pact Not Abandoned

Administration officials last week denied that the Anglo-American oil pact has been abandoned, following postponement of hearings before the Senate Foreign Relations Committee.

State Department and PAW officials asserted that there has been no change in policy, and early Senate ratification of the agreement will continue to be sought.

Postponement of the hearings indicates that the pact will never be ratified as a treaty was the interpretation placed by Harry F. Sinclair, president of the Sinclair Oil Corporation in a statement released last week.

Thinks Higher Tax Would Preclude Gas Exportation

P. A. Frye, executive director of natural gas for Louisiana recommended to Governor James H. Davis March 9 that the state gas gathering tax be increased from one-half cent to three cents per thousand cubic feet. This, he said, would prevent gas being sent to distant states for competition with coal and other fuels, and would return to the state more than $15 million annually.

Frye also suggested, in a first annual progress report:

That: Natural gas lines be declared public utilities and be placed, for intrastate operation, under the Louisiana Public Service Commission; earliest possible statewide gas proration and vigorour efforts to eliminate flaring of gas in oil fields, and the stopping the use of gas for gas lift followed by venting; reduction of gas-oil ratio with an upper per barrel limit of 5000 instead of 15,000 feet; and increased cycling of all gas condensate fields, mandatory where feasible.

The proposed increase in the gathering tax, he suggested, should all be paid by the gatherer, rather than the land or royalty owner.

January Pipe Line Tax Shows a Decided Gain

January revenues from the Federal taxes on gasoline and lubricating oils were under those of both the preceding month and the corresponding month last year, but receipts from pipe line transportation topped both months, the Internal Revenue Bureau has reported.

Gasoline tax collections dropped to $25,495,456 from $28,770,170 in December and $28,919,880 in January, 1945, it was reported, while lubricating-oil collections dropped to $4,187,536 from $4,669,026 last December and $6,827,325 last January. Revenue from pipe-line transportation, however, rose to $1,355,201 from $1,204,877 in December and $1,084,607 the previous January.

Despite the poor showing in January, gasoline-tax collections for the first seven months of the government's fiscal year were $15,597,727 above those of the corresponding period of the preceding fiscal year, $247,522,046 against $231,924,319, and lubricating oil was up $1,492,666, with a total of $47,687,418 against $46,194,752, while pipe-line transportation was down $336,020 at $9,054,910 against $9,390,930.

Old Tankers Offered

Bids will be opened March 25 by the Maritime Commission for sale of old tankers as follows: "George F. Downey," at San Francisco and the "A. S. Hanson," "Chilbar," "Chiloil," "Olney," "Pan Georgia" and "Virginia," at Mobile. Deadweight tonnages of the vessels range from 4246 to 14,000 tons.

The tankers will be sold to either domestic or foreign bidders on the condition that the buyer will not operate them and that the vessels will be completely scrapped.

Petroleum Industry's Stake in British Loan Revealed by Vinson

The British loan started on its rocky road through Congress last week with a warning from high administration officials that this country is faced with the choice of either putting England on her feet or attempting to rebuild our foreign trade in the face of a firm British-controlled economic bloc.

The petroleum industry, it was emphasized, has an extensive stake in the problem, 11 percent of our refined petroleum products being sold abroad before the war and 45.6 percent of those exports going to countries in the sterling area or which have payments agreements with Britain.

In actual money, our 1937 petroleum exports to those countries represented $171,800,000 out of total shipments abroad of $253,400,000, the Senate Banking and Currency Committee was told.

Recognizing that there is widespread opposition to lending Britain $3.75 billion, the administration opened its presentation before the committee with one of its most influential advocates, Secretary of the Treasury Fred M. Vinson.

Vinson submitted statistics showing that oil is one of the eight most important commodities in world trade, contended that the only way to keep world markets open to them is by expansion of international trade which cannot be developed if the loan fails, and pointed out that Britain not only dominates the many countries and areas in the sterling bloc but has payments agreements with 18 other countries which are customers for American oil companies.

Vinson's data showed that if the loan is not made and the British set out to block us in countries with which they have satisfactory financial arrangements, our oil companies may find themselves handicapped in Argentina, Bolivia, Brazil, Chile, Paraguay, Peru and Uruguay in this Hemisphere, and Belgium, Czechoslovakia, Denmark, Finland, France, Netherlands, Norway, Portugal, Spain, Sweden and Turkey in Europe.

"What we have here, potentially, is a British economic bloc," he explained. "Such a powerful bloc excluding the United States, Canada and the countries of the dollar area would be a challenge to our economy that we could not ignore."

As the hearings got under way, administration leaders were confident that the loan would be approved, but admitted privately that it would require a great deal of persuasion to bring success. It is considered a major test of the administration's program and all energies are being devoted to it with everything that might interfere sidetracked, including the Anglo-American petroleum agreement.

Work Suspended on "Big Shot" Well

Prospects of a successful completion of Oil Well Reflow Limited's Westflank No. 2 in Turner Valley, Alberta, have suffered a setback as a result of the finding last week that the 6⅝-inch casing was split at the 5700-foot level, where trouble had previously been experienced due to a dogleg at this depth.

Store of the shooting of this well on February 4 with 5200 quarts of nitroglycerine was carried in the March 4 issue of *The Oil Weekly*. Using cable tools, the crew had found top of the plug formed by the explosion at 6510 feet and had made some progress in drilling through the obstruction. Later, cable tools re-run uncovered evidence of a casing break at the higher level, the split evidently occurring several days after the nitro charge was exploded.

In view of the high cost of clearing the hole as a result of the casing split, operations have been temporarily halted.

Gas Tax Value Determined By Comptroller of Texas

Texas State Comptroller has entered a second order fixing value of gas produced, this under provision of a new law. In the first case (Sinclair), the formula used was total gross receipts less operating costs.

In the current case (Danciger Oil & Refining Company, Pledger field, Brazoria County) the Comptroller used the formula of 100 percent of the value of residues sold, 100 percent of the value of the distillate as determined by tests and 20 percent of the gasoline content as determined by test.

Danciger had been paying tax on a value of $ 0275 whereas the Comptroller set the value at $.049829 for June and $.049562 for September, 1945.

Kansas to Investigate Salt Water Contamination

Governor Andrew F. Schoeppel of Kansas has stated that an investigation will be made to determine the extent of salt water contamination of farm lands in Kansas. The announcement was made after the governor heard complaints from a group of Russell County landowners who met with him and representatives of the oil industry.

Schoeppel recalled that at the 1945 legislature an attempt was made to remedy pollution problems by enacting a law authorizing condemnation of land for deep disposal wells. "Even when we wanted to do that," the governor said, "there was a lot of pressure against it by western farmers who would be affected by careless pollution."

IPAA Lines Up Witnesses for Next Hearing of O'Mahoney Senate Group

Many witnesses already are scheduled to appear before the Senate Special Petroleum Committee during its four-day hearing on the independent company scheduled to open March 19.

Basic presentation, arranged by IPAA is as follows:

Opening statement: B. A. Hardey, IPAA president and chairman of the industry committee on the independent company.

History and character of the independent producer: Russell B. Brown, IPAA general counsel.

Production of oil and gas, O. C. Bailey of Bailey and Trimble, El Dorado, Ark.; Secondary recovery, D. T. Andrus, past president of the Pennsylvania Grade Crude Oil Association, Bradford, Penn.; Conservation of stripper wells, H. M. McClure, president of the National Stripper Well Association, Alma, Mich.

Taxes, Charles R. Bell, controller of Kerr-McGee Oil Industries, Inc., Oklahoma City.

Costs and price of oil, Merle Becker, vice president of W. C. McBride, Inc., St. Louis.

Imports, Wirt Franklin, past president of IPAA, Ardmore, Okla.

The independent company in refining, Fayette B. Dow, National Petroleum Association and Western Petroleum Refiners Association, Washington.

Summary, H. B. Fell, executive vice president IPAA, Ardmore, Okla.

Others Request Time

Requests for time also have been received from Fred W. Herlihy, president of National Oil Marketers Association, Orangeburg, S. C.; H. L. Thatcher, chairman of National Council of Independent Petroleum Associations, Chattanooga; Clyde G. Morrill, secretary of Atlantic Coast Oil Conference, New York; James L. Beattey, Indianapolis; E. M. Callis, president of The Petrol Corporation, Philadelphia; Robert A. Warfel, executive secretary of Ohio Petroleum Marketers Association, Columbus; Louis M. Faber, executive secretary of Retail Gasoline Dealers Association of Milwaukee; Angus G. Wynne, president of Pacific War Emergency Pipelines, Inc., Dallas, and E. C. Bratt, Sterling Stations, Inc., Fitchburg, Massachusetts.

Huge Rehabilitation Task Faced in Dutch East Indies

Rehabilitation of Standard-Vacuum Oil Company's properties in the Netherlands East Indies will be a long and costly procedure, in the opinion of Col. L. W. Elliott, company vice-president, on the basis of his recent personal survey of the installations at Palembang, Sumatra. From $35 to $60 million will be required for repairs and modernization, he estimates.

Standard-Vacuum's properties were seized by Japanese paratroopers in February, 1942, after the wells had been plugged and refinery equipment demolished. However, Col. Elliott reports, the Japs early in 1943 succeeded in repairs sufficient to run 30,000 barrels of crude from the partly-reconditioned wells, and were refining 20,000 barrels a day at Palembang. This refinery, still guarded by Japanese troops, is today in "fair" physical condition, said Col. Elliott; with most of the equipment functioning and 47 of the 55,000-barrel storage tanks rebuilt.

Deterioration, however, is advanced and rehabilitation is a huge task. When such work can get under way depends on several factors, he points out: extensive dismantling of pipes, still, and pumping equipment is needed for a thorough survey of their current condition; and even the very source of replacement material is uncertain now. Also the disturbed labor and political situation in the Indies is holding up work.

Technicians and a skeleton staff are now at Palembang to launch widescale rehabilitation work as soon as possible. Col. Elliott says Indonesian personnel will be employed again and Standard-Vacuum will reinstitute training programs for these workers as soon as possible. Before the war the company employed 10,000 men in its whole Indies operations, of whom 9000 were Indonesians and about 100 Americans.

Before its destruction four years ago, the Palembang refinery had a daily still-charging capacity of 45,000 barrels. Crude was run from the fields 85 miles inland through two 8-inch pipes and one 6-inch pipe, with a total carrying capacity of 55,000 barrels daily. The refinery also included one of the world's largest wax plants, with a capacity of 36,000 tons yearly.

New Mexico's Director Oil, Gas Conservation

R. R. Spurrier, appointed director of the Oil and Gas Conservation Commission and also state geologist for New Mexico, succeeds John M. Kelly.

R. R. Spurrier

Spurrier attended Ohio State University and also the New Mexico School of Mines and received the degree of Petroleum Engineer from the latter school. He had three years experience in the oil fields of Ohio, Oklahoma, and New Mexico, before entering the Army in 1941, as a private. He was discharged in October, 1945, as a captain. He was awarded the Purple Heart.

Kansas-Oklahoma Discuss Water-Flooding Problems

Water flooding in the "depleted" areas of eastern Kansas and northeastern Oklahoma has resulted in tremendous increases in production for some sectors, it was reported at the water-flood engineers meeting in Independence, Kas., February 27.

Montgomery County, Kansas, which had dropped to 300 barrels, has been increased to 3900 barrels a day. Neosho County, Kansas, has enjoyed a similar increase. Water-flooding has brought the annual production up in Nowata County, Oklahoma, from about 1,000,000 barrels in 1930 to 4,396,277 barrels.

Carl Pate of Chanute, Kas., will be the chairman of the next meeting of the water-flood operators which will be held in Independence March 27. One question that has been determined is that of affiliating with some recognized group or formally organizing a separate group so as to receive support from large companies and from state and federal agencies.

D. A. Taliaferro of the Bureau of Mines station, Bartlesville, Okla., directed the recent meeting where the general topic was "Prevention and Remedy of Channeling by By-Passing."

Standard Discusses Damage To Hungarian Oil Property

The Standard Oil Company (New Jersey) has discussed with the State Department damage caused by the Russians to oil fields of its Hungarian affiliate but no claims have been filed.

Press dispatches from Budapest quotes American sources that damage caused by Russian operation of the American property already amounted to $25 million. Eugene Holman, Standard Oil Company (New Jersey) president, said the dispatch is "in accord with information previously received from the company's representative" but that no information has been received as to the amount of the damage.

Study of Appalachian Sands

Studies of the structure of oil-bearing sands has been carried by the U. S. Geological Survey to the point where they may be used to locate potential stratigraphic traps by methods described in a mimeographed report by the Interior Department.

Pointing out that much of the future oil and gas production of the Appalachian basin may come from such traps, survey officials explained that zones in which permeable sands grade into less permeable silts and sands can be located when sufficient data are available on the range of sizes of grains in the oil-bearing sands. Such zones are potential stratigraphic traps.

More than 400 well samples and nearly 300 outcrop samples from several of the oil and gas-bearing sandstones of Ohio, Pennsylvania and West Virginia were analyzed for size of grains during the studies.

Copies of the report free of charge may be had from the Survey in Washington.

Navy Denies Ickes' Charge Of Tremendous Oil Losses

Hearings on the nomination of Edwin W. Pauley to be Undersecretary of the Navy went into their final half last week, when Pauley and his supporters began presentation of his defense against charges that he had attempted to trade the government's tidelands suit for campaign contributions.

Harold L. Ickes, recalled for cross-examination, disclosed that in 1939 both he and President Roosevelt were on the same side of the fence as Pauley in support of an oil conservation law in California.

An assertion by Ickes that oil men should not hold high offices where they would have to deal with oil (see page 23) brought from Pauley the pertinent question why, in that case, did the former Secretary staff PAW with men from the industry.

It was thought that Pauley's chances of confirmation, if the matter reached the Senate floor, were increasing although some believed he would be content to withdraw if given a clean bill of health by the committee.

A charge by Ickes that 150,000,000 barrels of oil has been drained from the Elk Hills Naval Reserve because the Navy did not sink offset wells brought from Secretary James Forrestal a denial and a claim that not more than 2,200,000 barrels had been lost.

Meanwhile, at the capitol there appeared to be a growing sentiment to put industrial experts in high positions having to deal with industrial matters, with Representative Robert L. Sikes of Florida, a member of the House Military Affairs Committee, calling for expert oil men to be placed in positions of "commanding authority" in both the War and Navy departments to handle the petroleum problems which constantly confront the military services.

"The fact that a certain group of both insiders and outsiders is aggressively advancing a philosophy which would bar practical oil men from Navy service most assuredly militates against one vital phase of adequate preparation," Sikes said. "It is a preposterous doctrine which can only result in harm to both Army and Navy by perpetually denying them the services of men who most certainly could prove invaluable to their essential activities.

"Some action should be initiated which specifically will lead to the inclusion of qualified and experienced petroleum experts in both branches of the armed services. Certainly any attempt to exclude them is totally indefensible."

Oil Sale Bill Approved

First call on government royalty oil would be given refiners having no crude resources of their own, under legislation approved by the Senate last week and now pending in the House of Representatives. The bill was introduced by Senator Joseph C. O'Mahoney of Wyoming a year ago.

Krug's Stand on Industry Hailed as Name Confirmed

An oil industry free from restrictive domination of the Interior Department was seen last week in the position taken by Julius A. Krug, confirmed to succeed former Secretary Harold L. Ickes, before the Senate Public Lands Committee that the best economy is one "that operates as freely as possible without government interference."

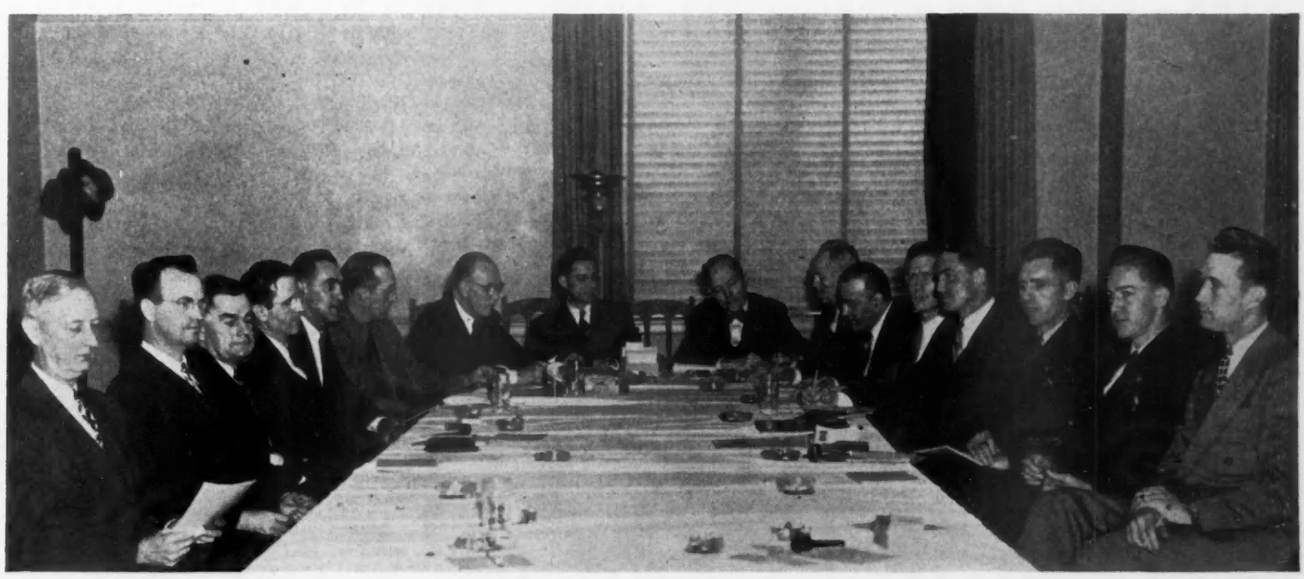
The committee questioned Krug only about his views on public power and other matters. With many of the department's problems, he said frankly, he is not yet familiar.

Krug, at one time manager of power operation for TVA, said he "firmly believed" in public power where it could be produced as cheaply or cheaper than provided by private industry, but thought the nation's industry should operate as freely as possible without government interference.

Krug's stand for free competition, coupled with his record as chairman of the War Production Board, was seen as minimizing the danger of new administration-sponsored efforts to impose federal regulation on the oil industry.

President Truman on March 8 announced that Krug would take over all the posts formerly held by Ickes including, he said, duties as petroleum administrator.

Annual Conference of The Oil Weekly Staff



The 28th Annual Editorial Conference of *The Oil Weekly* was held at Houston, March 2 to 4. Staff members discussed articles relating to engineering, production and drilling, many of which suggested by readers, will appear in future issues. Special issues for 1946 also were discussed. Members of the editorial staff of the *Petroleum Refiner* also attended the conferences. Shown above at one of the three-day meetings are, reading clockwise, J. Kent Ridley, managing editor, *The Petroleum Refiner;* Weldon B. Hill, Houston, H. H. King, Fort Worth, L. J. Logan Houston, George O. Ives, New York, Al Reese, Houston, all members of The *OIL* WEEKLY editorial staff; Ray L. Dudley, publisher; Warren L. Baker, editor; Silas B. Ragsdale, managing editor; Grady Triplett, editor, *The Petroleum Refiner;* and Anthony Gibbon, Tulsa, C. C. Pryor, Houston, Gordon B. Nicholson, Houston, Gilbert M. Wilson, Los Angeles, J. E. Kastrop, Houston, and Cecil Smith, Houston, all of The OIL WEEKLY editorial staff.

U.S. Chamber to Hold Referendum On Public Land Leasing Problems

United States Chamber of Commerce members soon will be polled regarding leasing of public lands and amendments needed to present laws.

Pointing out that the federal government asks royalties as high as 33 1/3 percent, as compared with the general level of 12½ percent, the chamber will propose that, as an incentive to further exploration, a royalty of 12½ percent be provided on discoveries in unproven areas and on all deeper discoveries in the presently proven fields.

"If we are to increase our petroleum resources we must push forward with all possible speed the prospecting and development by private industry of oil and gas on the public domain, yet this is hindered by the antiquated leasing laws and regulations now in force," the chamber's natural resources department declared.

"Modern geophysical methods of prospecting for oil require the careful examination by expensive methods of large areas, regional in scope. Yet the leasing law provides that no person can hold, for prospecting purposes, more than 7680 acres in any one state, and this must be divided into not more than three geologic structures, each containing no more than 2560 acres. No oil company could afford to undertake a modern geophysical survey of such a limited acreage."

Another antiquated provision of the leasing law, running back to the days of shallow production, allows a lease term of five years and so long thereafter as oil or gas is produced in paying quantities. In unproven territory an exploratory lease may be renewed for another five years, but not in proven territory.

"In areas of shallow production, therefore, there is no incentive for exploration for deeper-lying oil which, with the long and costly drilling, might take more than the five years allowed before production would result," it was said.

"The risk and high cost of oil exploration in new territory is often divided among several oil companies by the company first in the field by means of assigning a part of its lease to these companies to develop. Yet the Oil Land Leasing Act prohibits the assignment in whole or in part by a government lessee of his lease without the prior written consent of the Secretary of the Interior, and the secretary has ruled that such assignments shall become new leases bearing the same date as the original lease, thus limiting the time available for development."

Los Angeles Nomads Install

Officers for 1946 of the Los Angeles Chapter Nomads, recently installed, are shown above at the Nomads' annual ball. Front row, left to right: Roland E. Smith, export business, regent; James V. Robinson, Miller-Robinson Company, vice president; Wilber F. Bettis, M. O. Johnston Oil Tools, Inc., president; T. Sutter, Baker Oil Tools, Inc., regent. Back row: T. G. Martin of Bob Eiche's export organization, assistant treasurer; Wallace A. Sawdon, Petroleo, sergeant-at-arms; William McGraw, Western Pipe & Steel Company, treasurer; Earl M. Daniels, Hydril Company, secretary; Dan Duncan, Emsco Derrick & Equipment Company, deputy sergeant-at-arms. B. M. Landis, assistant treasurer, was not present.

Gasoline Jump Shown by Bureau's December Report

Daily production of natural gasoline and allied products jumped one percent in December over the preceding month, averaging 13,048,000 gallons daily compared with 12,928,000 gallons in November, the Bureau of Mines has reported.

Output for the year was up 11 percent over 1944—4,673,507,000 gallons against 4,201,932,000 gallons—with the greatest increases recorded in California, Louisiana Gulf and each of the four Texas districts. Demand at plants for light products was up 5 percent in December, to the highest level since July.

December production included 200,778,000 gallons natural gasoline against 199,081,000 in November; 24,781,000 gallons natural gasoline mixture against 26,507,000; 32,270,000 gallons raw condensate against 30,109,000; 39,838,000 gallons commercial butane-propane mixture against 29,869,000; 29,300,000 gallons normal butane against 26,595,000; 24,397,000 gallons propane against 24,335,000; 12,499,000 gallons other mixtures against 10,941,000; 13,252,000 gallons isobutane against 13,658,000; 1,578,000 gallons iso-pentane against 3,743,000; 22,012,000 gallons finished gasoline and naphtha against 19,768,000, and 3,792,000 gallons other products against 3,219,000.

Stocks at plants and terminals continued to increase in December, but those at refineries dropped, the former rising from 108,768,000 to 112,507,000 gallons and the latter declining from 72,870,000 to 69,006,000 gallons. At the close of 1945, total stocks had been reduced by 5,429,000 gallons from the end of 1944, a reduction of 29,568,000 gallons at refineries being only partly offset by a gain of 24,139,000 gallons at plants.

War-Built Refineries Now Offered for Sale-Lease

The War Assets Corporation is offering six refineries built by the government during the war, for sale or lease as follows:

Ashland Oil and Refining Company 100-octane plant, Catlettsburg, Ky., 5300 barrels daily;

Frontier Refining Corporation refinery, Cheyenne, Wyo., 1650 barrels daily 100-octane gasoline, 1300 barrels motor gasoline; J. S. Abercrombie and Harrison Oil Company plant, Sweeny and Freeport, Texas, 8500 barrels daily 100-octane, 3500 barrels Army all-purpose gasoline and 1700 barrels 91-octane.

Root Petroleum Corporation refinery, El Dorado, Ark., 1990 barrels daily 100-octane; The Pennzoil Company refinery, Oil City, Penn., 1685 barrels daily 100-octane; Utah Oil Refining Company plant, Salt Lake City, and Fort Laramie, Wyo., 5500 barrels daily 100-octane.

All of the plants can readily be converted to the production of commercial grades of gasoline.

Also for sale are four compressor stations connected to the Tennessee Gas and Transmission Company pipe line in Washington County, Mississippi, Hardeman and Sumner counties, Tennessee, and Powell County, Kentucky.

New Plant Takes Care of 85 Million Feet Gas Daily

Efforts of Texas' regulatory groups to effect conservation and utilization of casinghead gas received additional momentum when the $9 million gasoline absorption plant of Glenn H. McCarthy, in Jefferson County near Winnie, Texas, was dedicated March 6. The plant is processing a total of 85 million cubic feet daily of casinghead and distillate gas from four fields—Winnie, Stowell, Fannett, and Fig Ridge.

Col. E. O. Thompson, state railroad commissioner pointed to the plant as "an example of perfect conservation."

"If it were possible to show preference, wells worked under this plan should be given first consideration in allocating quotas," he said.

Approximately 40,000 gallons daily of natural gasoline, propane, butane, and diesel fuel are extracted by the plant from the casinghead gas that was previously vented in the field.

The plant will process 30 million cubic feet daily of low-pressure casinghead gas and 55 million cubic feet daily of high pressure gas from distillate wells. This supply is taken from 182 wells on 85 leases.

Residue gas from the plant is taken by Jefferson Pipe Line Company and Beaumont Natural Gas Company, McCarthy subsidiaries, and Neches Butane Company, Texas Public Service Company, Gulf States Utilities, and domestic outlets at Central Gardens, Port Neches, and Nederland. Gas also will be supplied to the Du Pont plants in Orange County.

Plans Are Developing for Synthetic Gasoline Plant

Eight interests are supporting the plant projected for the Brownsville, Texas, area which will convert some 60 million cubic feet of natural gas daily into 5800 barrels of high-octane gasoline plus other products. The companies are:

The Texas Company, La Gloria Corporation, The Chicago Corporation, United Gas Corporation, Forest Oil Corporation, Niagara Shares Corporation, Gulf States Oil Company and Stone and Webster, Inc.

Expected to require two years for construction, the plant, costing $14 million, is expected to be financed to the extent of one-half by RFC.

Half of the gas utilized will be supplied by La Gloria Corporation and the other half by Gulf States Oil Company of El Paso.

Texas Sells Leases

Sale of numerous leases on state lands was announced by the Texas State School Land Board at Austin last week. Sale of tracts in the bed of the Rio Grande River were held up when land owners protested that leasing these two tracts comprising 225 acres would result in stream polution. However, the Board in its leases required that any drilling must be done by directional hole.

Increased Oil Demand for March Is Shown by Bureau of Mines Estimates

Demand for domestic crude this month will be 120,000 barrels daily greater than in February, it was forecast by the Bureau of Mines March 7 in a report indicating that the downward trend in production which followed the end of the war has been reversed and may continue upward for several months.

The Bureau found that demand in March will require the production of 4,450,000 barrels of crude daily, compared with 4,430,000 barrels last month, and forecast that the total demand for all oils may exceed 5,150,000 barrels daily for the current quarter compared with an actual total demand of 5,043,000 barrels daily in the last quarter of 1945.

"On the basis of present trends," the bureau commented, "the demand for domestic crude oil may not decline materially in the second quarter, civilian demand for gasoline may be much higher than was anticipated, the military demand for fuel oils is expected to continue at present levels and may be supplemented by additions to depleted stocks and exports may expand due to the shortage of coal and other fuels outside of the United States."

Bureau statistics indicated that crude production in January and February averaged 4,645,000 barrels daily against a demand for domestic oil of 4,495,000 barrels with about 150,000 barrels daily being added to stocks.

The most significant changes shown by current trends relate to motor fuel demand and stocks. Total demand for gasoline is exceeding all previous estimates and may reach approximately 1,880,000 barrels daily during the current quarter, this high demand combined with a reduction in gasoline yields and an increase in fuel oil yields, reducing the rate of increase in gasoline stocks and permitting higher crude runs than were first anticipated to meet fuel oil requirements for the Navy, other government and civilian uses. This changed situation was responsible for an increase of 12,000 barrels over preliminary estimates in the March forecast of crude demand.

The Bureau also reported that total exports and shipments to non-contiguous territories in the last quarter of 1945 amounted to 33,100,000 barrels against imports of 32,700,000 barrels. The principal exports were 9,300,000 barrels of crude, 10,100,000 barrels of motor fuel, 7,300,000 barrels of distillate fuel oils, 2,200,000 barrels of residual fuel oils, 1,600,000 barrels of kerosine 1,400,000 barrels of lubricating oils and 1,200,000 barrels of other oils. Chief imports were 22,300,000 barrels of crude, 8,300,000 barrels of residual fuel oils, 1,400,000 barrels of distillate fuel oils and 700,000 barrels of other oils.

In forecasting production requirements for the month, the bureau raised the daily average in five states, lowered it in four others and left the remainder unchanged. The full net 120,000 barrels increase however, was covered by the allocation to Texas, where refiners had represented that their crude supply was inadequate as a result of the low allowable. Other increases, in Louisiana, New Mexico, Arkansas and Mississippi, offset decreases in California, Kansas, Oklahoma and Colorado.

Estimates for the individual states were as follows:

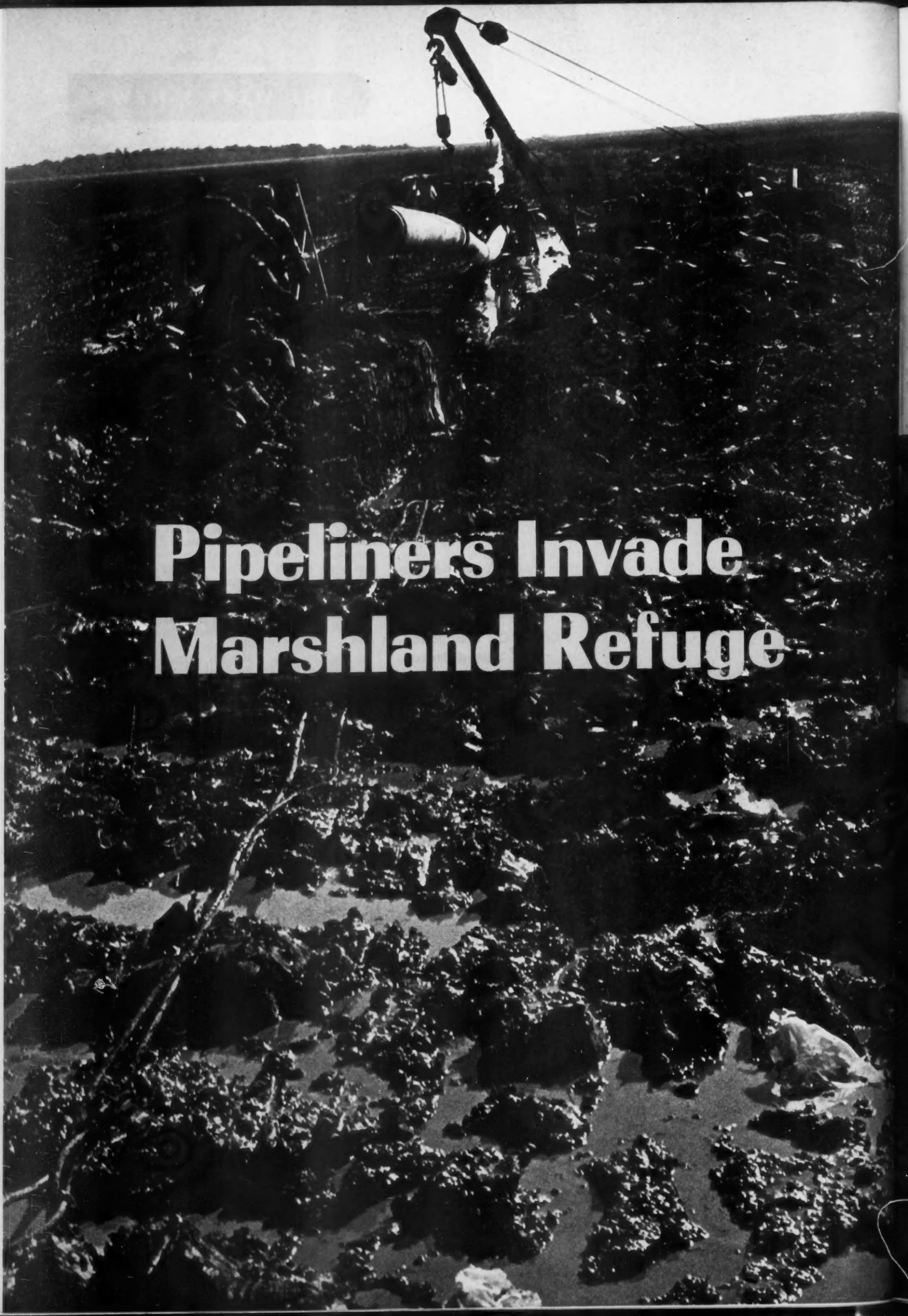
State	March 1946	February 1946
Texas	1,910,000	1,890,000
California	838,000	844,000
Kansas	252,000	254,000
Oklahoma	366,000	368,000
Louisiana	372,000	368,000
Illinois	198,000	198,000
New Mexico	98,000	96,000
Wyoming	94,000	94,000
Arkansas	76,000	74,000
Mississippi	52,000	49,000
Colorado	23,000	24,000
Michigan	46,000	46,000
Pennsylvania	33,000	33,000
Kentucky	29,000	29,000
Montana	20,400	20,400
Indiana	13,000	13,000
New York	13,000	13,000
West Virginia	8,200	8,200
Ohio	7,000	7,000
Nebraska	800	800
Other	600	600

Crude Oil Production in the United States

(Estimates compiled by the OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED March 9	March 2
Alabama	1,000	950
Arkansas	77,300	77,400
California	842,700	848,200
Colorado	23,500	23,450
Florida	100	100
Illinois	207,500	214,500
Indiana	17,600	16,300
Kansas	244,700	257,050
Kentucky	30,550	30,450
Louisiana	374,850	370,050
North Louisiana	81,500	81,200
South Louisiana	293,350	288,850
Michigan	43,300	44,850
Mississippi	55,300	55,100
Missouri	100	100
Montana	19,100	19,100
Nebraska	850	850
New Mexico	98,450	98,400
New York	14,050	13,300
Ohio	7,200	7,400
Oklahoma	381,550	389,450
Pennsylvania	37,600	32,800
Tennessee	35	35
Texas	1,817,450	2,100,500
Upper Gulf Coast	418,850	544,000
East Texas Field	317,350	321,450
Rest of Eastern Texas	127,500	146,000
Southwest Texas	290,250	356,050
West Texas	436,500	503,300
North Texas	146,000	157,700
Panhandle	81,000	81,000
West Virginia	7,900	8,000
Wyoming	103,250	101,000
Total United States	4,405,935	4,718,335

Total stocks, foreign and domestic, March 2, as reported by the Bureau of Mines were 229,430,000 barrels with a daily average production of 4,726,000 and runs to stills 4,779,000.



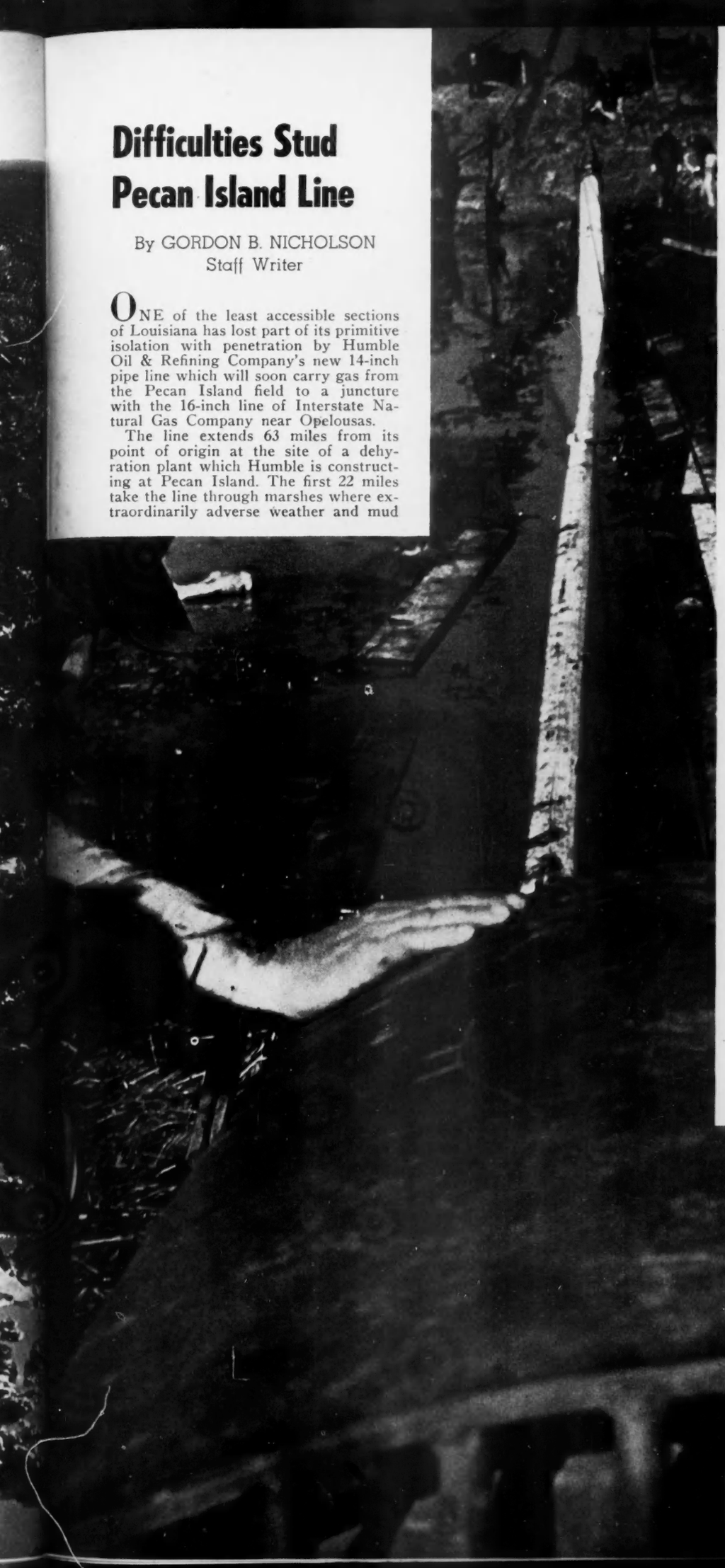
Pipeliners Invade Marshland Refuge

Difficulties Stud Pecan Island Line

By GORDON B. NICHOLSON
Staff Writer

ONE of the least accessible sections of Louisiana has lost part of its primitive isolation with penetration by Humble Oil & Refining Company's new 14-inch pipe line which will soon carry gas from the Pecan Island field to a juncture with the 16-inch line of Interstate Natural Gas Company near Opelousas.

The line extends 63 miles from its point of origin at the site of a dehydration plant which Humble is constructing at Pecan Island. The first 22 miles take the line through marshes where extraordinarily adverse weather and mud hampered the pipe line crews. The dry land sector starts north of Intracoastal City and extends 41 miles, covering more favorable terrain and running in a northerly direction toward Opelousas. This section of the line met only normal difficulties in crossing numerous drainage and irrigation canals and the extensive rice fields which cover about 50 percent of the route from the marsh to the northern terminus of the line. The land segment was built first, construction through the marsh constituting the final and most trying lap.



Welded sections of pipe are pulled toward a winch driven by a gasoline engine and floats into the water-filled ditch beyond. End of the pipe is sealed to give buoyancy.

Weather favored the pipeliners of the Associated Contractors and Engineers while working on the northern section starting last October, and rapid progress was made. Stream and canal crossings, although frequent, were not complicated, and the rice fields presented no unusual problems. Pipe used in this segment weighed 52½ pounds per foot, and was yard-coated with enamel saturated with asbestos felt. All joints were pressure-welded.

The lower portion of the line brought more construction difficulties in passing through miles of submerged lands following a drop from the last elevated ground near Intracoastal City, and makes crossings of the old and new Intracoastal Canal and numerous existing and proposed smaller canals. Itinerary through the marsh follows close to the banks of the canals used to reach the Pecan Island field, with the exception of a few cut-offs which were taken to reduce distance.

Uninhabited Region

The Pecan Island field itself is reached only after a 28-mile boat ride from the landing at Intracoastal City where the road from Abbeville abruptly ends when the terrain dips under water. No human beings live in the submerged areas along the waterway to Pecan Island, with the exception of numerous trappers who camp temporarily on the canal banks during trapping season which lasts through part of the winter months. Muskrats and minks, notably plentiful in parts of South Louisiana, abound in the marshes, and provide a remunerative lure for trappers. During the remainder of the year, the marshes are un-

More pictures on page 34.
Story continued on page 36.

Upper photo—Joints previously coated with protective materials in Abbeville were welded in the field. Welds were then coated and pipe prepared for "pushing" into marsh.

Below—"Pushing" apparatus consists of winch and gasoline engine mounted on pontoons, which straddle pipe as it is pushed ahead.

All photographs, courtesy "The Humble Way."

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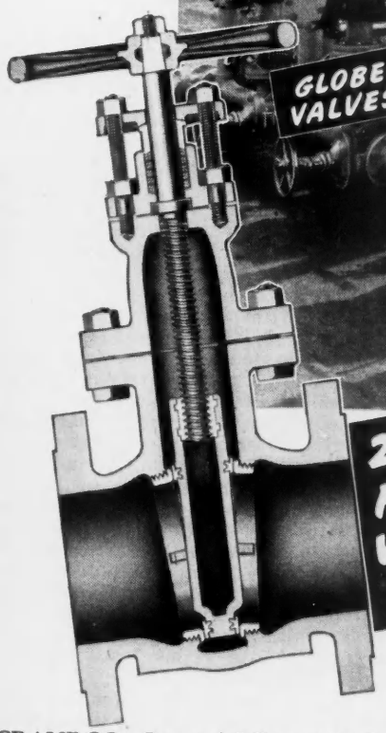

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Top—All equipment used by Associated Contractors and Engineers in constructing the marsh sector of the Pecan Island line was delivered by water and unloaded on the banks of the canals where the work was in progress.

Lower photo—Pipe sections up to 200 feet long are welded before pushing and the winch line is fastened to the end join. Ditches usually were flooded, 2½ miles of pipe were pushed from one station.

molested, and are inhabited only by the prolific wildlife of the region.

Work on the pipe line through the marsh began in late November, and soon typical winter weather made its appearance. The following weeks witnessed rainfall which turned the marshes inot quagmires unsuitable even for the trappers, and cold winds frequently blew in from the north with the penetrating frigidity characteristic of the Gulf Coast country. Trappers, long-hardened to winter conditions in the marshes which furnish their livelihood, were unable to compete with the mud and severity of the weather, and were granted an extension to the normal trapping season by the State Conservation Department.

These conditions faced the pipe line crews when December arrived in the marshes, and with the exception of a few infrequent days of sunshine, persisted during the next two or three months until construction was finished.

As the new line moved southward from the northern edge of the marsh, difficulties were manifold. Construction became a marine operation. From this point on, all supplies and equipment, including pipe and food, were transported by water, through one or more of the numerous canals dredged through the inundated areas. Some crew personnel lived aboard quarterboats anchored in the canals in the vicinity of the sites selected for work stations, while others lodged in Abbeville and commuted by boat from Intracoastal City.

Pipe used in the marsh segment of the line weighed 50½ pounds per linear foot, excluding a heavy anti-corrosive coating which was applied in Abbeville, a settlement used as operational headquarters while running the line through the marsh. The precoated pipe was moved by barge from Intracoastal City and unloaded at the several sites selected pushing points.

Ditching through the marsh was accomplished by special plows pulled behind marsh buggies equipped with winches. The ditches usually filled immediately with water, simplifying laying the line by aiding the pushing which was used on almost the entire 22-mile sector. In shoving the pipe distances extending upwards to 2½ miles, the number of push stations was kept to a minimum, and accordingly, many formidable stretches of mud were avoided excepting at the push points. The only instances in which pushing was not employed resulted from prevalent north winds which at times blew water from the marshes and left insufficient water in the ditches for floating the pipe.

All necessary equipment was assembled at the selected pushing stations, including pipe, welding apparatus, side boom tractors, winches, and pushing equipment. Prior to pushing, several joints of pipe were welded to lengths up to 200 feet, with the welds afterwards being covered with a heavy protective coating. In the marsh sector, only electric welding was used to join sections of pipe.

Pushing procedure offered little departure from routine, the end joint being equipped with a bull plug to prevent filling with water to assure sufficient bouyancy. The shoving apparatus, consisting of a gasoline engine and winch, was mounted on pontoons designed to straddle the pipe during operations. A steel cable on the reel of the winch was fastened to the end of the pipe section to be moved, and the pipe was pulled toward the machine and between its supporting pontoons, to float into the water-filled ditch beyond.

Construction is now under way on the gathering system at Pecan Island. Approximately 5½ miles of 2½- and 4-inch line will carry condensate from the wells to the dehydration plant, all the lines being protected with an anti-corrosion coating of the same type as the coating put on the section of 14-inch line through the marsh. After the dehydration plant, gathering lines, and storage facilities are completed, the system will be prepared to receive gas from the Pecan Island field.

The marshes of Vermilion Parish did not succumb peacefully to the violation of its sanctuary by Humble's Pecan Island pipe line, as the personnel who participated in its construction will testify. Its completion represents another triumph of steel and determination, and records the end of another of the "tough jobs" so frequently faced by the pipeliners.

Complete Bypassing of Oil In Water-Flooding Operations

By MARION STEKOLL, Oil Producer
Independence, Kansas

COMPLETE bypassing in water flood operations refers to a condition where the injected water does not force any oil to the producer, and where the oil consequently is bypassed by this water. The producer under such circumstances will produce all or a high percentage of water and the proper oil recovery will not be obtained. Complete bypassing is also referred to as "breakthrough." Each term denotes a different concept of probably the same condition; namely, that of forcing water into the injection wells in such a manner as to fail in removing the oil from the formation. In this article the term "bypassing" generally will be used to refer to this condition. All data presented here were obtained from secondary recovery operations by water flooding.

When a producing well in a water flood operation suddenly produces all or a high percentage of water, bypassing or breakthrough action is immediately suspected by the operator or engineer. Nearby injection wells are checked and if one or more of the injection wells is found to be the cause of the water production, the offending injection well is either shut off for a period of several days or the injection rate reduced. The pressure and rate later may be increased gradually.

However, when a well suddenly starts producing large quantities of water, the bypassing action has progressed to the stage where it is an established condition from injection well to producer. It is advisable to check this condition at the earliest possible moment. Reasons for rapid removal of this condition are given below. Bypassing of water from a particular injection well may be determined in the initial stages through the use of a bypassing or more commonly termed "breakthrough curve" and the action immediately stopped.

COMPLETE bypassing or breakthrough in water flooding operations refers to a condition where the injected water does not force any oil to the producers and where the oil consequently is bypassed by this water.

Data are presented on bypassing conditions in two fields of Southeastern Kansas. In these two fields injection rate rather than pressure appear to determine bypassing action. Each injection well in these two fields is found to have a certain rate above which bypassing consistently will occur. In addition, the maximum rate of injection per foot of permeable sand for each field is fairly uniform.

The bypassing or breakthrough rate in a sand determines economic well spacing and is a major factor for consideration in water flood development.

Breakthrough Curve

The bypassing or breakthrough curve is generally obtained by plotting the well head pressure on the abscissa and the intake rate on the ordinate (Figure 1). This method is used as it generally is considered that pressure is the determining factor causing breakthrough by a lifting of the overburden. Figure 2 is the same curve as Figure 1 with rate (barrels per day intake) instead of pressure plotted on the abscissa. This latter method is used in this paper as data subsequently presented suggests rate as being more significant than well head pressure in causing bypassing action.

Data for the bypassing or breakthrough curve of an injection well are determined by measuring the water intake for a period of time and the average well head pressure during this interval. The period of time for these measurements may be of short duration, one to five minutes,[1] and a series of pressures and intake rates determined in a few hours. Several rates and pressures are measured and a curve drawn as Figures 1 and 2. The data given in this report represent measurements made at 24-hour intervals. For the wells mentioned herein, it is not desirable to vary the intake rates from time to time for the purpose of determining bypassing rates and pressures. Reduction in intake rates in these wells is not conducive to satisfactory production, and no deliberate attempt has been made to vary the intake rates to obtain data for bypassing curves. An allotted rate in barrels per day is set for each injection well and the meter reader attempts each day to adjust the well head valves so as to inject the allotted amount for each well. At approximately the same time each day (within 30 minutes) the well head pressures are read and the meter reading taken. Subtraction of one day's reading from the previous day's reading represents the intake for the well over a 24-hour period. The well head pressure is not an average of the 24-hour period, but a value recorded at the time the meter is read.

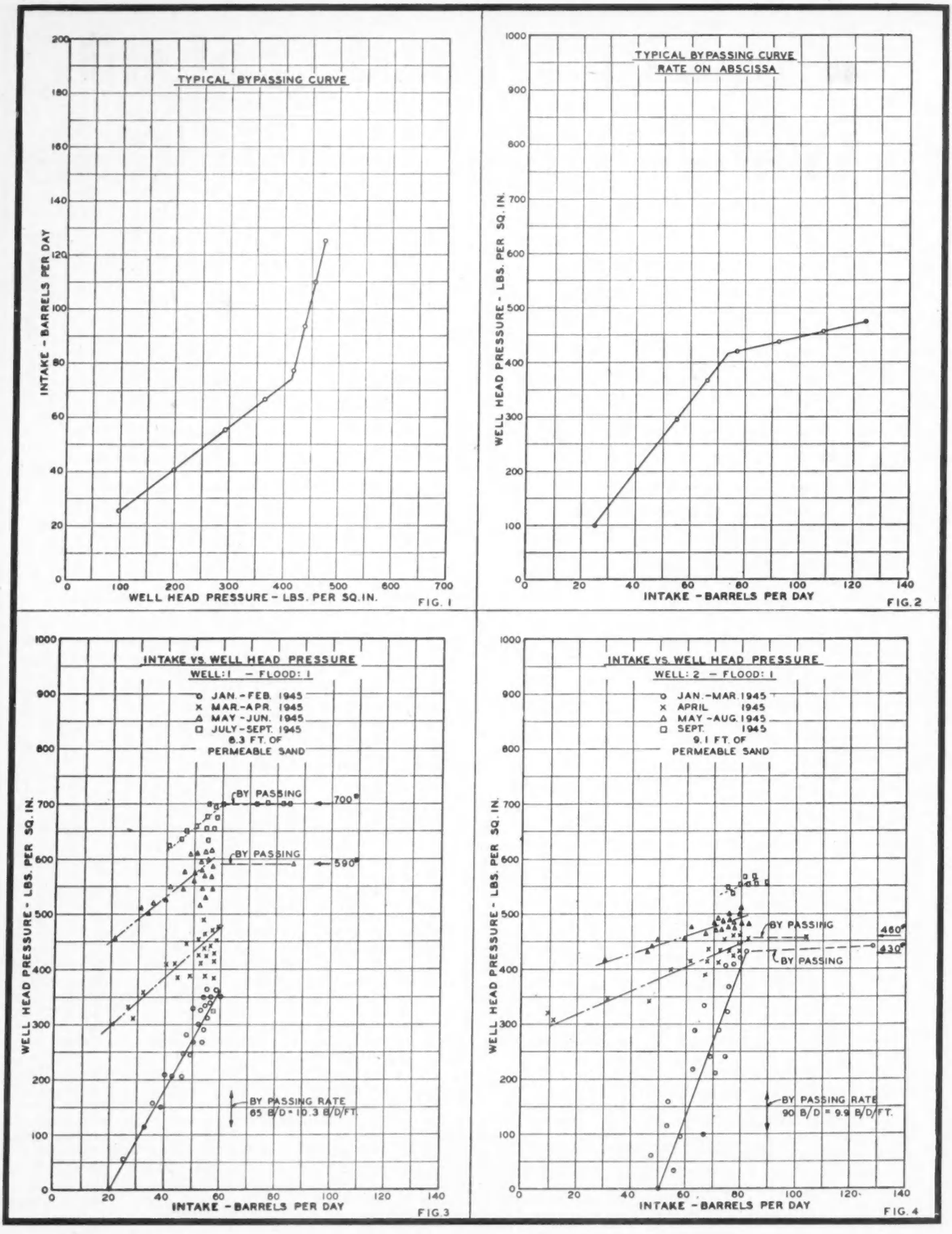
The well head pressure varies several pounds over a 24-hour period and the spot reading of pressures undoubtedly is a partial cause for the fluctuation of points in Figure 3 through Figure 8. However, these data are obtained in the regular routine of lease operation and are considered sufficiently accurate for practical purposes.

Significance of Curves

It is next our purpose to consider the significance of these bypassing or breakthrough curves as obtained under field operating conditions. A review of several water flood areas in Eastern Kansas indicates that operators often are able to exceed the original breakthrough pressure by lowering the well head pressure and then raising it gradually. The original breakthrough pressure is often greatly exceeded without detrimental results. It also has been mentioned[1] "that operators have been able to exceed the lifting pressure on some wells by lowering the pressure below the breaking point and then gradually increasing it again by small increments until the pressure is higher than the previous overburden lifting pressure." These results, which are fairly common in water flooding practice, suggests that a factor other than pressure may be the cause of the breakthrough or bypassing condition as indicated by the change of slope on the bypassing curves and the consequent water production in the producing wells.

In Figure 3 through Figure 8 are plotted well head pressure vs. intake for several wells in two different floods, Flood 1 and Flood 2. In both floods the producers are operated under flowing conditions, no producer being pumped. At Flood 1 production is obtained from the Bartlesville sand, located at 1100 feet in depth and at Flood 2 from the Wayside sand located at 400 feet.

The examples selected for this paper represent only a few of the wells from which similar data are available. These examples are similar in character and Well 3, Flood 2, (Figure 8) may be considered in detail. Injection was started in 1944 and the well head pressure vs. intake rates for the period October through December, 1944, are shown as circles on the graph sheet. The average



of the points plotted establish a line approximately as shown with the rates ranging from 20 barrels per day to 45 barrels per day, and the pressures from 50 pounds to 250 pounds per square inch at the well head.

During December, 1944, the intake rate into this well was increased for three days resulting in successive intake rates of 75, 100 and 122 barrels per day. It may be seen that the slope of the line connecting these three points differs markedly from the previously established pressure intake line and that a breakthrough or bypassing condition is indicated when the rate exceeds 50 barrels per day. The well head pressure at the point of bypassing on the curve is approximately 260 pounds.

The intake rate was reduced to approximately 45 barrels per day from the

period for January through April, 1945, and the data for this period are plotted as X's on the pressure intake sheet. As the formation was filled up by the injected water, the well head pressure gradually increased to approximately 385 pounds, which is 125 pounds over the original breakthrough pressure point. During the interval of January through April, 1945, no indications of bypassing are noted on the pressure intake curve.

The data obtained on this well from May through August, 1945, are plotted as triangles on Figure 8. During this interval, when the well head pressure reached approximately 440 pounds, the intake rate was increased for three consecutive days to the values of 54, 59 and 90 barrels per day. The pressure remained at approximately 440 pounds at these higher rates and the line connecting these points departs radically from the line connecting the other points marked by triangles for rates of less than 50 barrels per day. Bypassing condition is indicated, therefore, at a rate of slightly over 50 barrels per day and at a pressure of 440 pounds.

The intake rate was again reduced and the well head pressure gradually built up, probably as a result of increase in formation pressure. The points plotted as squares on the intake curve represent the data obtained in September, 1945. When the well-head pressure was 500 pounds per square inch, a bypassing condition was obtained at rates of 54 and 66 barrels per day. The pressure remains constant for these two points at 500 pounds. The rate was reduced to below 50 barrels per day and the pressure at the well head is now approximately 512 pounds without indication of bypassing action.

Pressure Variation

The well-head pressures at which bypassing action is shown for this well are 260, 440 and 500 pounds per square inch. This wide variation in pressure suggests that the well-head pressure may not be the determining factor in bypassing. However, when the injection rate exceeds approximately 53 barrels per day, bypassing action is consistently encountered and it is found necessary in this well to restrict the injection rate to a value of below 53 barrels per day.

For Well 3, at Flood 2, the bypassing rate of 53 barrels per day represents an intake of 3.3 barrels per day per permeable foot of sand. For Wells 1 and 2, Flood 2, (Figures 6 and 7), the bypassing rates as shown on the intake pressure curves are 3.3 and 4.1 barrels per day per permeable foot of sand.

In Table 1 are listed 18 of the injection wells at Flood 2 and the bypassing rate in barrels per day per permeable foot of sand for each well.

In Flood 1, Table 2, the bypassing rate varies from 8.4 to 12.1 barrels per day per permeable foot while the pressures at which the bypassing occurs varies from 50 pounds to 700 pounds. In Table 2 are listed data for 16 wells at Flood 1, showing well number and bypassing rate in barrels per day per foot of permeable sand.

A core is taken on every well drilled and two dry permeability measurements are made on each foot of core. The value for permeable feet as used in these calculations may be considered, therefore, as reasonably accurate. Typical core analysis results are shown in Figures 9 and 10 for Flood 1 and in Figures 11 and 12 for Flood 2.

In the article published by S. T. Uster and J. C. Calhoun, Jr., in THE OIL WEEKLY of March 19, 1945 are several curves which prove of interest. These curves, (Figures 13, 14, and 15), are reproduced from the original article, where they are shown as Figures 7, 8, and 11. In Figure 13 it may be noted that the bypassing rate for the well remains fairly constant at approximately 40 barrels per day. The well shown in Figure 14 shows a bypassing rate of about 20 barrels per day. The bypassing rate for each well remains fairly consistent.

The well in Figure 15 shows a bypassing rate that declines from 240 barrels per day to approximately 60 barrels per day. This well was treated with wax emulsion for selective plugging. It may be expected that the number of permeable feet subject to water injection is reduced by each wax emulsion treatment. If the bypassing rate is constant for each foot of permeable sand exposed, the bypassing rate will be reduced as the number of exposed feet is decreased due to plugging action.

In the bypassing curves for the Flood 1 and Flood 2 wells, there are several pressure intake lines for each well. As water is injected into a well the lines are located successively higher on the page (See Figure 5). The change in position of the pressure intake lines is a result of the gradually increasing formation pressure. Higher formation pressure requires additional well head pressure to inject the allotted amount into a well.

In Table 3 are listed average core data values from Flood 1 and Flood 2 and measurements of oil viscosity and oil gravity. While the formation at Flood 1 has a higher average permeability than the sand at Flood 2, there are approximately 20 wells in the Flood 1 area (example, Figure 10) with permeability values averaging approximately the same as that found in the Wayside sand at Flood 2. The bypassing rate on these 20 wells apparently is not different from other wells in the same field where the sand averages over 100 millidarcys in permeability. The porosity values in the two sands are not appreciably different. It is necessary to conclude from these data that permeability and porosity do not affect the bypassing rate. However, there are differences in Flood 1 and 2 in the fluid saturations and character of the oil, all of any of which characteristics may influence the bypassing rate. As shown in Table 3, the oil saturation for Flood 1 is considerably higher and the connate water saturation is lower than that found in the Flood 2 area. The character of the oil in the two floods is also different, the Flood 2 area having higher viscosity and lower gravity oil than that found in the Flood 1 Bartlesville sand.

Table 1—Flood 2

Well No.	Bypassing Rate—Bbls. Per Day Per Foot of Permeable Sand
1	3.3
2	4.1
3	3.3
4	4.1
5	4.5
6	3.3
7	3.5
8	3.5
9	3.2
10	4.0
11	3.3
12	3.5
13	3.6
14	3.7
15	2.1
16	4.5
17	4.5
18	3.2
Average	3.6

Table 2—Flood 1

Well No.	Bypassing Rate—Bbls. Per Day Per Foot of Permeable Sand
1	10.3
2	9.9
3	9.9
4	10.8
5	8.4
6	10.4
7	9.6
8	10.6
9	10.5
10	12.1
11	11.0
12	11.2
13	11.1
14	9.7
15	10.1
16	9.8
Average	10.3

Table 3

Core Analysis & Oil Character Data

	Flood 1	Flood 2
Average permeability MD.	65.0	19.0
Average porosity—%	19.0	20.0
Average reservoir oil saturation—(oil core)	63.3	48.0
Average connate water saturation—(oil core)	18.2	35.0
Average residual oil saturation—after flooding	25.0	25.0
Viscosity of oil, atm. press. 70° F.	6-9	15-20
Gravity of oil, API° @ 60°/60°	39.0	32.0

Viscosity Significance

It may be suspected, from the data listed in Table 3, that the viscosity of oil is significant in the determination of bypassing rate. However, before the viscosity may be considered as significant, it is necessary to make viscosity measurements of the oil under the reservoir conditions at which flooding is taking place.

An understanding of the mechanism of the bypassing action is difficult. Apparently, in the two fields under consideration, the rate of injection is significant in determining when the bypassing action will occur. It is found in the Flood 2 area, Wayside sand, that when the bypassing action is allowed to continue for a period of several weeks or more, a reduction in rate and pressure may not return the well to the original pressure-intake condition. If the rate is reduced immediately after bypassing occurs no harmful results are obtained and the well returns to the original pressure intake relationships. It has been found at Flood 2 that the bypassing action has a limited lateral extent and that one producer may be affected without other nearby wells being affected.

Regardless of the mechanism that causes bypassing or breakthrough action, it is most significant for the water flood operator to determine the bypass-

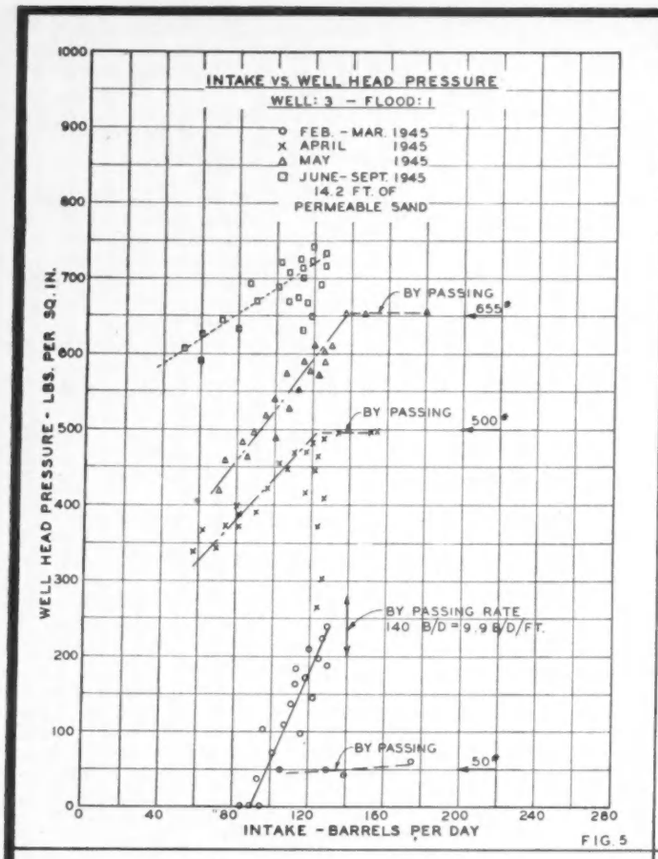


FIG. 5

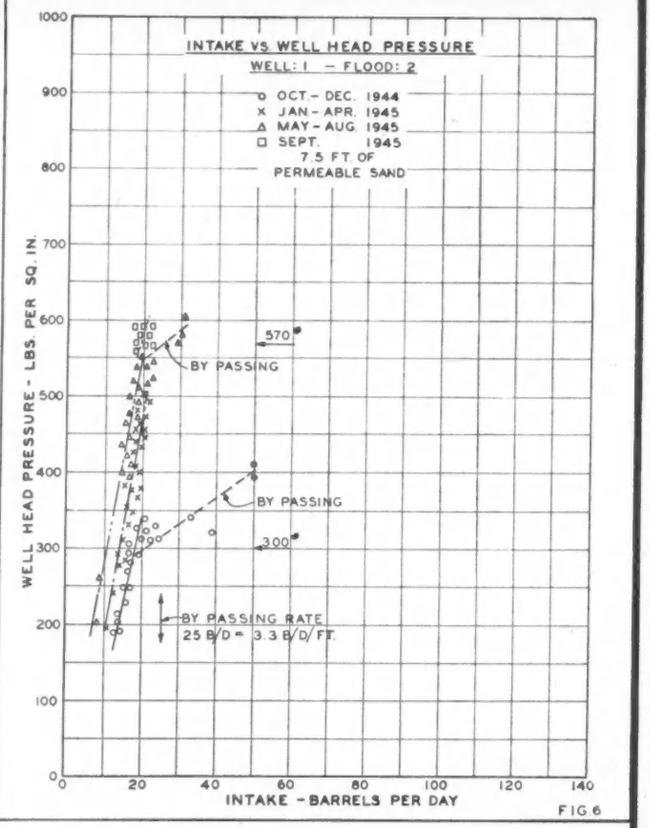


FIG. 6

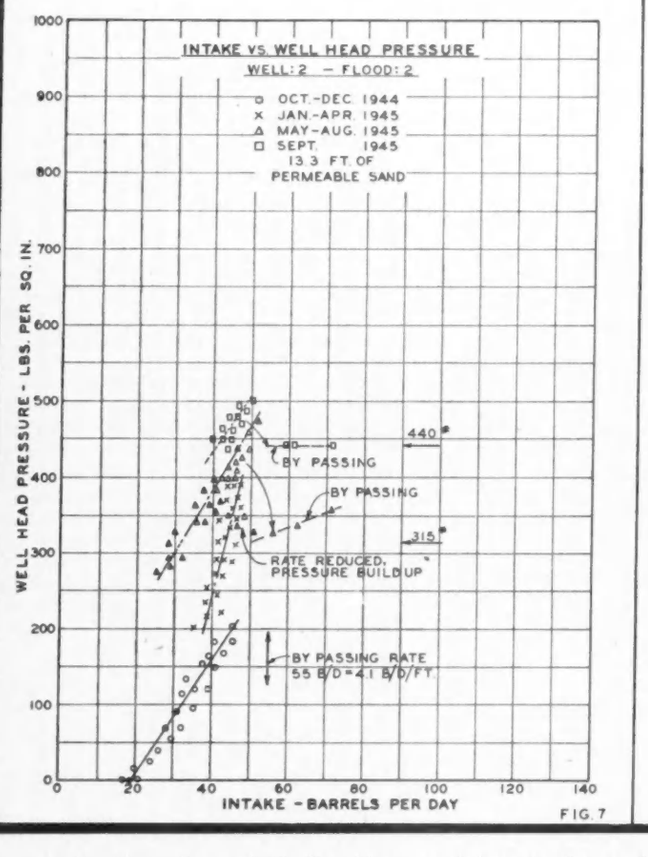


FIG. 7

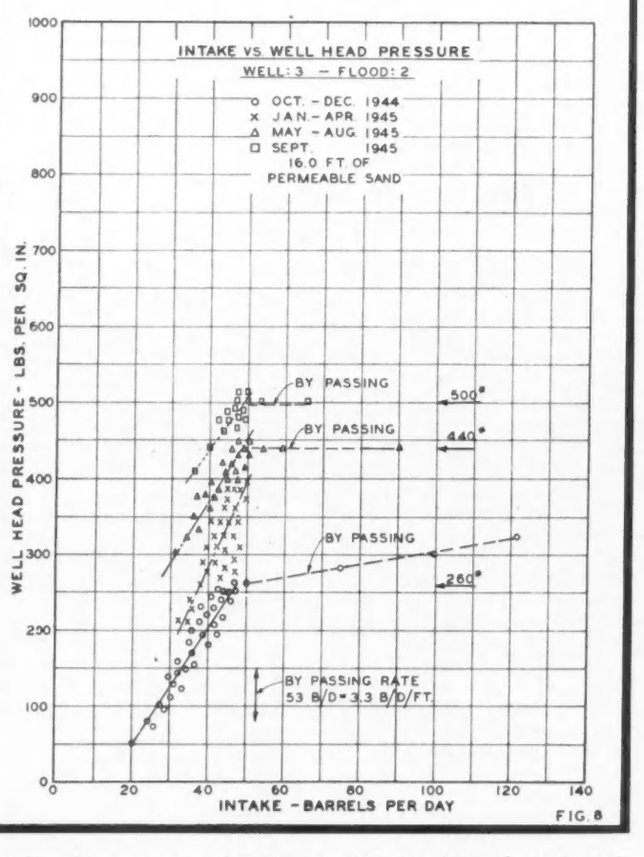


FIG. 8

ing rate for his wells or field. Consider for example that it is intended to flood a particular field at the rate of five barrels per day per foot of permeable sand and the well spacing is adjusted accordingly to obtain economic fill-up and production rate. If it is found possible to inject at almost double this rate, as in Flood 1, the well spacing may be doubled over the original pattern, providing other factors do not interfere, and a most important savings in development obtained. On the other hand, if the bypassing rate is lower than five barrels per day per foot of sand, as in Flood 2, it will be necessary to reduce the well spacing pattern in order to obtain yield in an economic length of time. In other words, the determination of bypassing rate for a flood is an important factor in determining the well spacing

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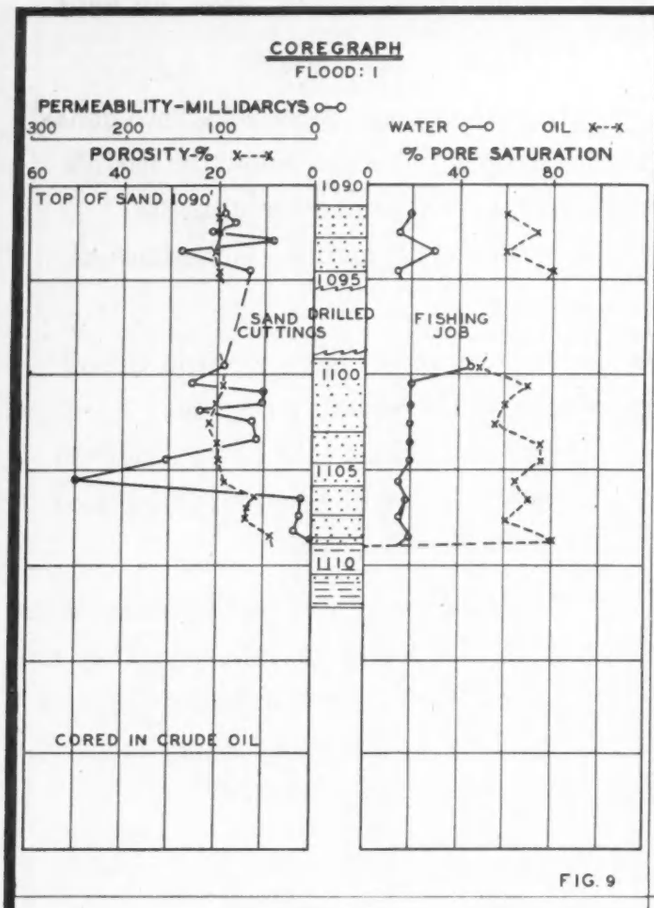


FIG. 9

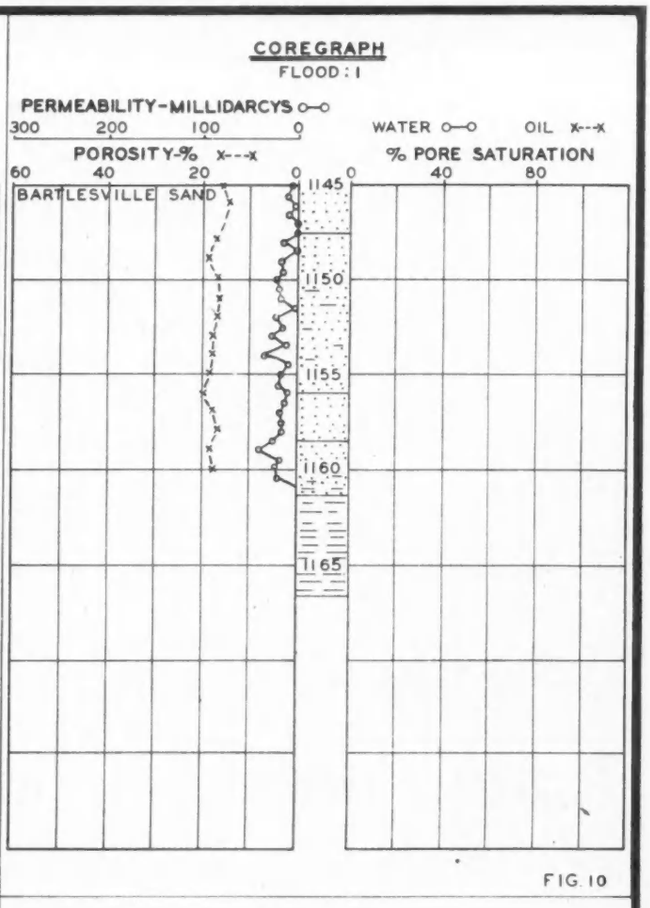


FIG. 10

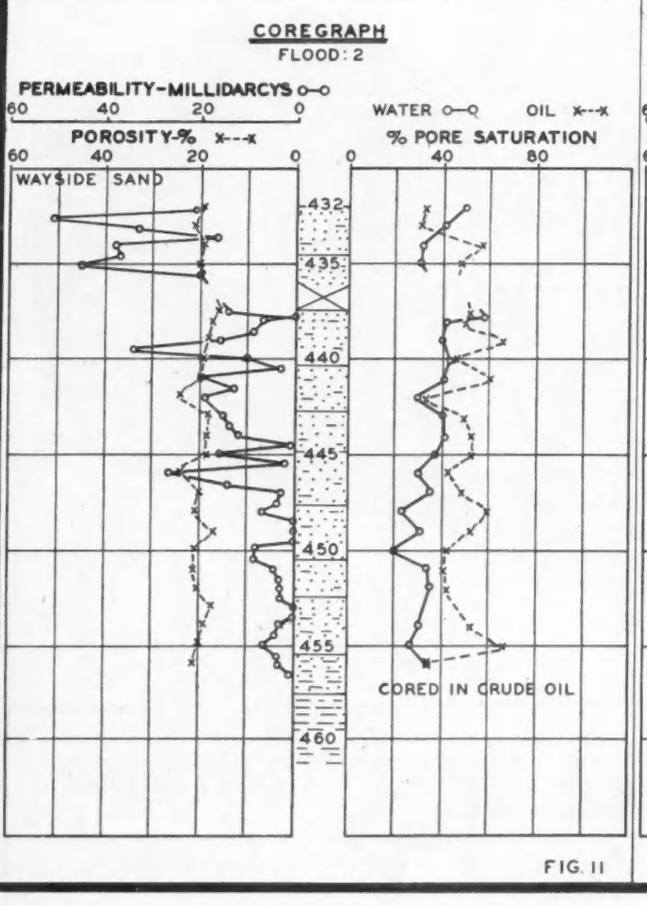


FIG. 11

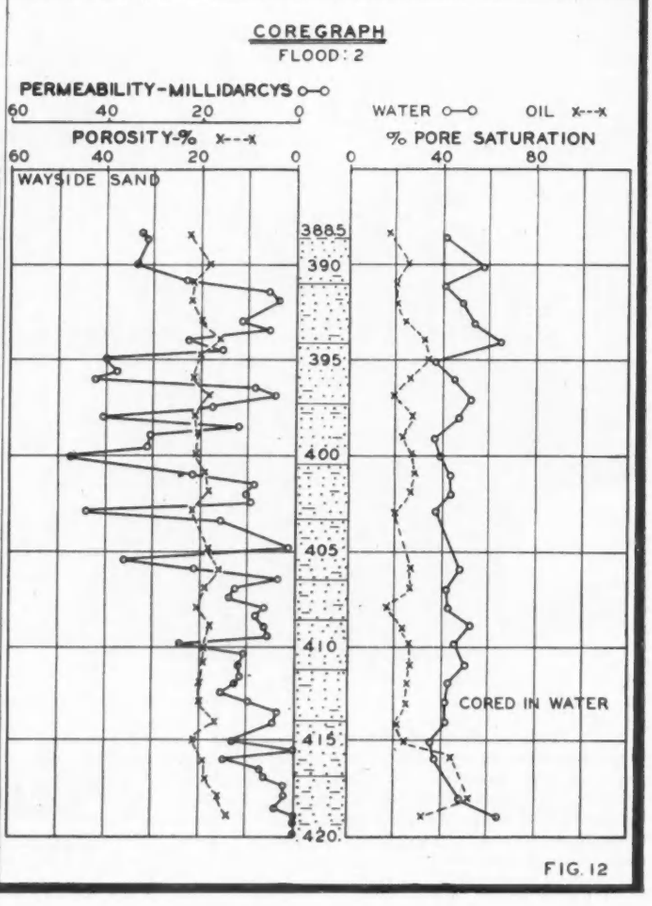
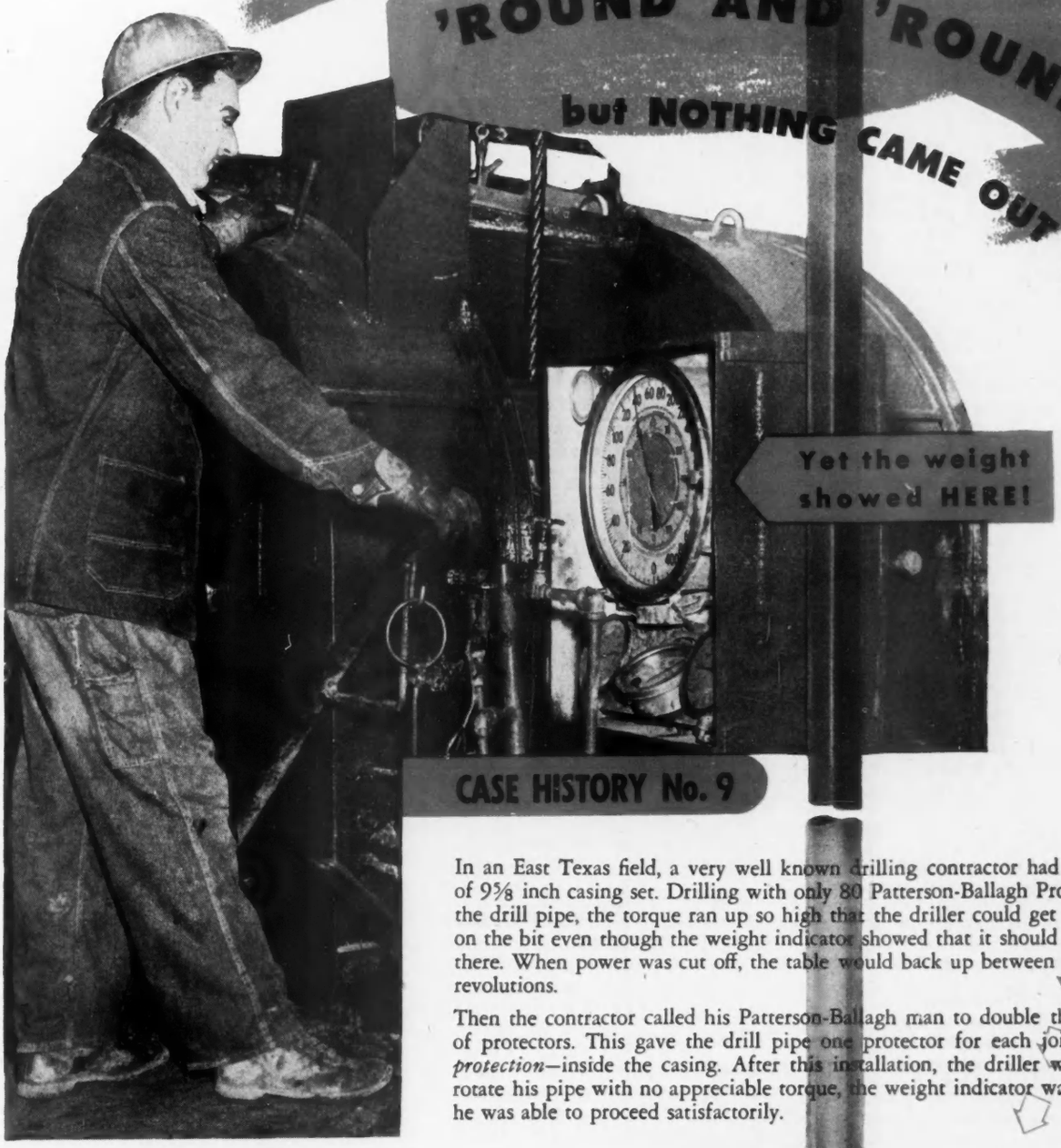


FIG. 12

THE TORQUE WENT 'ROUND AND 'ROUND but NOTHING CAME OUT HERE!



CASE HISTORY No. 9

In an East Texas field, a very well known drilling contractor had 4800 feet of 9⅝ inch casing set. Drilling with only 80 Patterson-Ballagh Protectors on the drill pipe, the torque ran up so high that the driller could get no weight on the bit even though the weight indicator showed that it should have been there. When power was cut off, the table would back up between 1½ and 2 revolutions.

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for that operation. In water flooding work, where development cost is such an important feature in the operations, the determination of bypassing rate must be of prime importance before extensive development is carried out.

If the injection rate is significant in causing bypassing it may be expected that bypassing will occur even under conditions of vacuum at the well head during initial stages of the development. For example, in the Flood 1 area where it has been found that approximately ten barrels per day per foot of sand will cause bypassing, the wells would take 20 to 30 barrels per day per foot of sand under vacuum in the initial stages of development. If these high rates were injected into the wells under vacuum conditions, bypassing action probably would have occurred and water would have been produced instead of oil. If rate is a determining factor a certain pressure should not be set as the maximum at which breakthrough or bypassing will occur, as bypassing may occur at a rate reached at a pressure considerably below this maximum pressure. Also, the establishment of a breakthrough pressure may prevent the use at a later date of higher pressures that would be safe providing the bypassing rate is not exceeded.

For example, assume the bypassing rate on a particular well is 50 barrels per day. However, a supposed breakthrough pressure of 500 pounds may have been determined and this pressure not exceeded in subsequent operations. As the formation pressure increases, the intake rate on this particular well at 500 pounds may be reduced to ten or 20 barrels per day, a value which is considerably below the bypassing rate of 50 barrels per day. Under such circumstances the oil yield will be much slower than would be obtained by considering rate instead of pressure as causing bypassing action.

There may be reductions or variations in efficiency in the flooding operation as rates are increased in the range below the bypassing rate. However, with such a change in efficiency, we might expect a convex or variable slope pressure-intake curve. Data indicate a straight line relationship between pressure and intake, which suggests that the efficiency of the water flooding action is not materially impaired until the bypassing or breakthrough rate is reached.

Conclusion

The data as given in this paper are obtained from two fields in Southeastern Kansas, one field producing from the Bartlesville sand and the other from the Wayside sand. The conditions as found in these two fields are not applicable necessarily to other areas.

It is suggested that the pressure-intake curves as obtained from other areas be reviewed with the possibility of discovering whether or not rate is a significant factor in determining bypassing action. It is also suggested that the bypassing curves are most important for an efficient flooding operation and that these curves should be obtained for injection wells to determine the maximum rate at which the field may be flooded and to prevent operation at an inefficiently high or low injection rate.

REFERENCE

[1] S. T. Yuster and J. C. Calhoun, Jr.: Pressure Parting of Formations in Water Flood Operations—Part 2—Oil Weekly, March 19, 1945, Page 34.

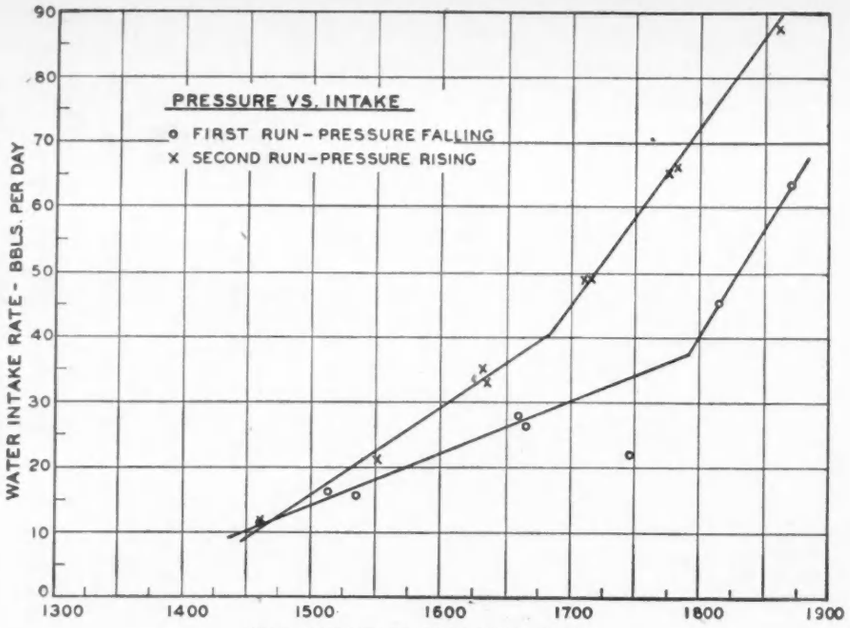
PRESSURE VS. INTAKE
o FIRST RUN - PRESSURE FALLING
x SECOND RUN - PRESSURE RISING
WATER INTAKE RATE - BBLS. PER DAY
AVG. SAND FACE PRESSURE - P.S.I.

FIGURE 13

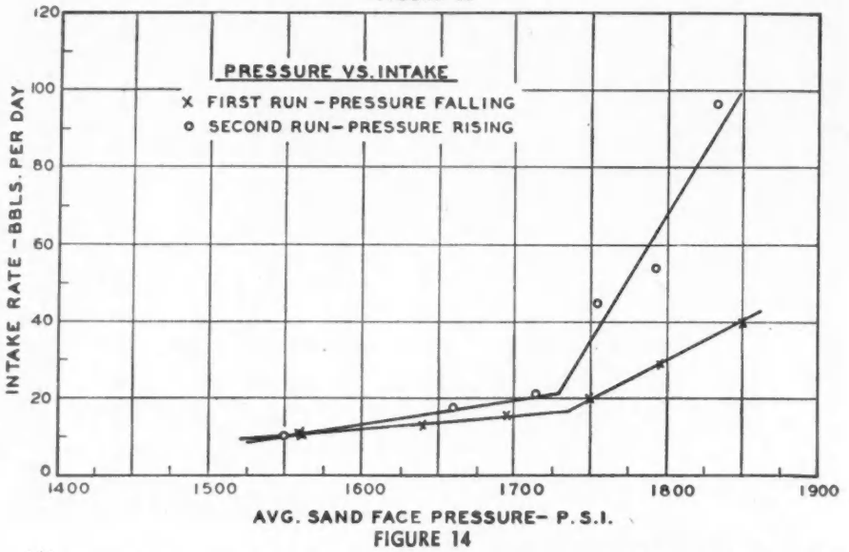
PRESSURE VS. INTAKE
x FIRST RUN - PRESSURE FALLING
o SECOND RUN - PRESSURE RISING
INTAKE RATE - BBLS. PER DAY
AVG. SAND FACE PRESSURE - P.S.I.

FIGURE 14

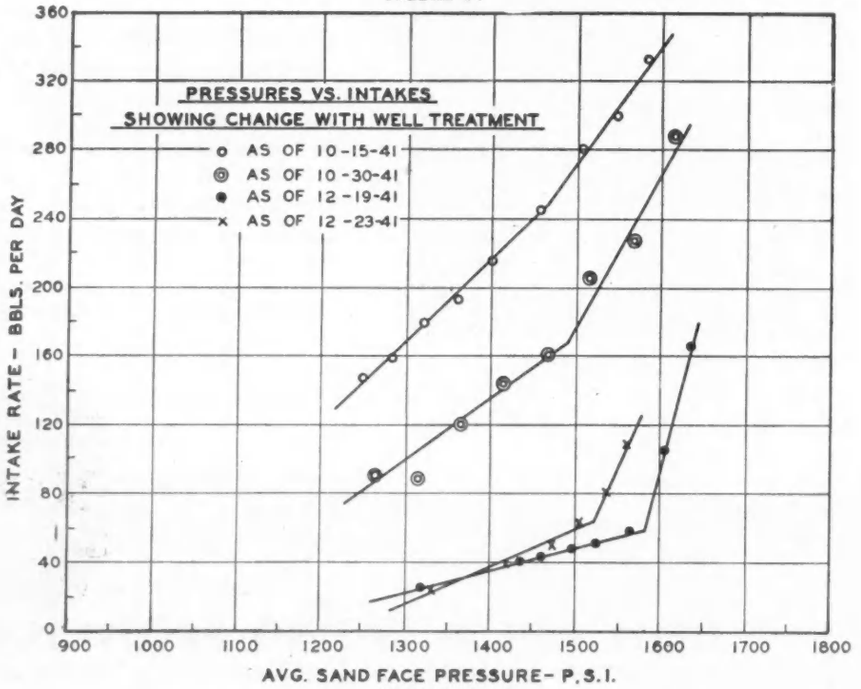
PRESSURES VS. INTAKES
SHOWING CHANGE WITH WELL TREATMENT
o AS OF 10-15-41
AS OF 10-30-41
AS OF 12-19-41
x AS OF 12-23-41
INTAKE RATE - BBLS. PER DAY
AVG. SAND FACE PRESSURE - P.S.I.

FIGURE 15

From Yuster & Calhoun, Jr., in The Oil Weekly, 3-19-45

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Well Spacing and Oil Recovery

By W. C. KITE, Consulting Geologist

THE last few years have seen the growth of conflicting ideas in regard to the most efficient method of well spacing. The over supply of oil brought on by the discovery of the East Texas field created widespread proration and a long period of declining allowables. Wide well spacing was a natural outgrowth of these dwindling allowables. The day-to-day oil needed for our economy could be produced from a smaller number of wells with much less investment. Many oil producers have come to think that wide spacing results in great saving and assume that wide spacing will recover as much oil from a field as a dense pattern of drilling. This fallacy should now be discarded. For seven years we have had a persistent decline in the rate of discovery. Greater conservation of our oil resources could be achieved by producing all the oil from a given field that it is economically possible to recover. If our oil occurred in subterranean caverns or caves, one well drilled into the reservoir might eventually drain off all the oil. Fortunately or unfortunately, most of our oil has accumulated in limestone or sandstone formations and we are confronted with the problem of bringing it to the surface with the least possible waste.

***The Oil Weekly* herewith presents another discussion of the ever interesting and highly debatable question of well spacing. Realizing that there are many views and opinions on this subject, The Editors herewith invite others of the oil industry to submit their views. Address: Editor, *The Oil Weekly*, Box 2608, Houston 1, Tex.**

In sandstone the open space between the sand grains is usually microscopic and when oil is found it has collected in these capillary openings. When a well penetrates an oil bearing sand the oil moves under pressure into the open hole. The pressure toward the opening is greatest in the immediate vicinity of the bore hole. The force of this pressure decreases rapidly with distance from the well cavity. The pressure changes between wells occur in a zone of gradual reversal. When the wells are widely spaced the static zone between them is naturally greater. When water drive occurs, the water "cones" up around the bottom of the well. As this water permeates the sand near the well opening it tends to block off oil in the zone of pressure change between the wells. The wider this zone the greater will be the amount of oil blocked off from movement into the well.

A very able and comprehensive report of the effects of well spacing on recovery of oil in the Mid-Continent has been made by Clark, Royds and Tomlinson. This report and also a bulletin issued by the Bureau of Mines contains tables showing the well density and recovery from the nearly depleted fault-line fields of Texas. In these fields the structural conditions were similar, the producing horizon the same and all were exploited in like manner. These reports conclusively show that the greatest recovery occurred in the most densely drilled fields. Figure 1 shows the increased oil recovery in barrels per acre foot of sand with the increased well density from field to field in the Currie, Mexia, Powell and Wortham fields.

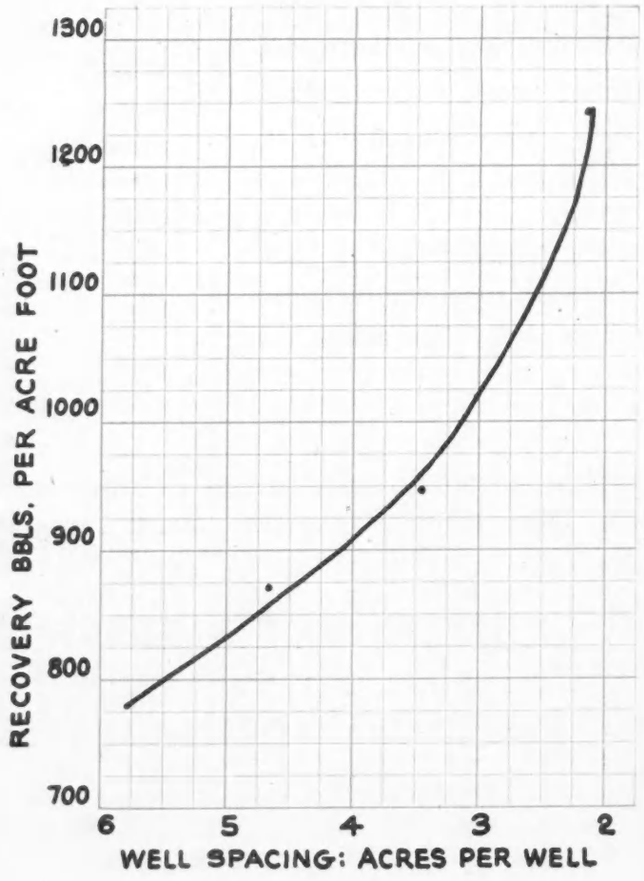

FIGURE 1
Increased recovery with increased well density of Texas fault line fields (Currie, Mexia, Powell, Wortham).

The Lucien field of Oklahoma was first developed on a 40-acre per well pattern and was widely propagandized as a model of economical development. Several years later a south extension was developed on a ten-acre pattern. Sand conditions were similar and production to date indicates that the south area, with its ten-acre spacing, will ultimately produce twice as much oil per acre foot of sand as will the north area in which the wider spacing was followed.

In the development of the Oklahoma City Wilcox area the average well density was about seven acres per well and the average pay thickness 120 feet, resulting in a recovery of about 650 barrels per acre foot. In those quarter sections in which the well density averaged four acres or less per well the recoveries averaged about 1600 barrels per acre foot, while in those quarter sections in which the spacing was ten acres and up per well, the recovery per acre foot was about 450 barrels. It is doubtful if more than ⅓ as much oil would have been recovered had a spacing pattern of 40 acres per well been followed throughout the area.

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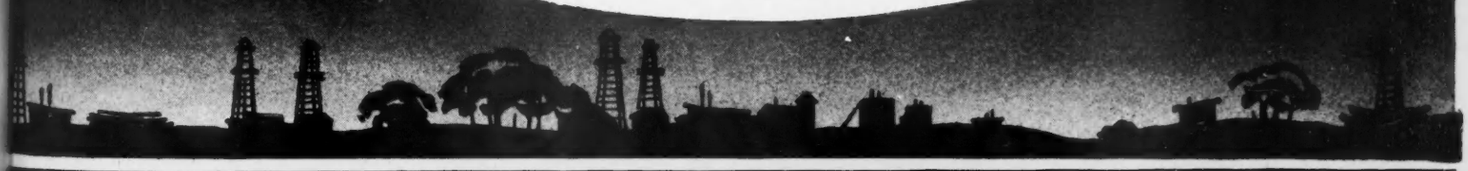

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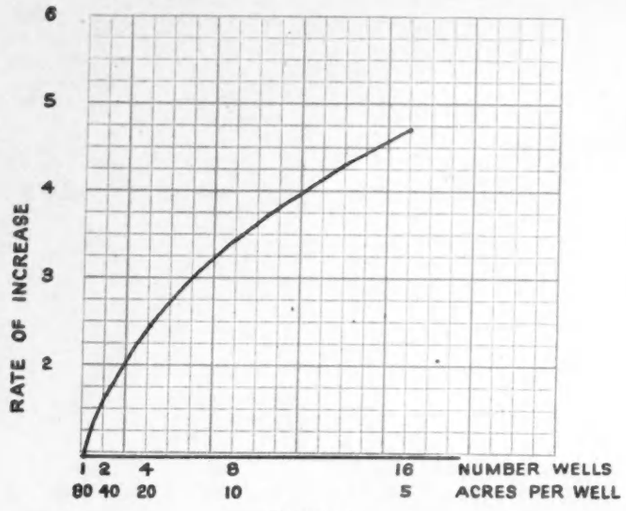

FIGURE 2
Increase in ultimate recovery in relation to increase in well density

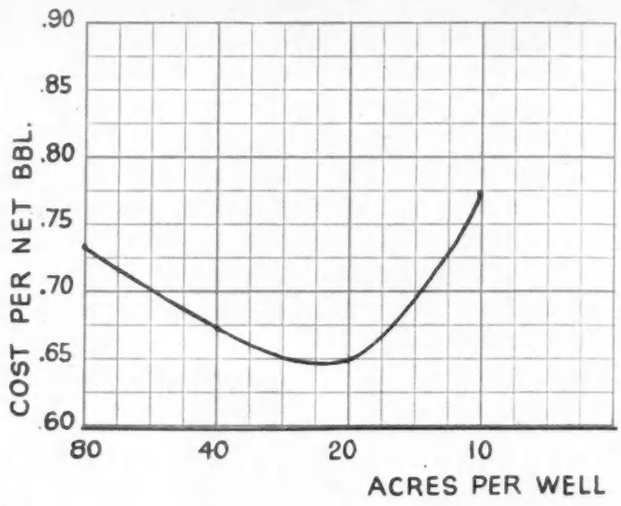

FIGURE 3

engineers made an exhaustive study of West Coast fields. They sought to ascertain the proper spacing of wells to yield the maximum net profit. They used the Bell zone of the Santa Fe Springs field to demonstrate their method. The sand had an average thickness of 115 feet and was drilled on a 14-acre pattern. Ultimate indicated recovery will be about 61 million barrels with a profit of $36 million. The group reported that had the spacing been approximately two acres per well instead of 14, the profit would have been $59½ million.

Production figures show that increased well density results in increased recovery. Within practical limits there is a definite mathematical relationship between spacing and recovery. An analysis of the various items of cost of producing oil in the Mid-Continent indicates that spacing of around ten acres probably nets the most profit per dollar expended. Studies of the relationship between spacing and actual recovery show that we may expect twice as much oil from a field if a pattern of four wells to a 40-acre tract is used instead of one well to 40 acres. If four wells are drilled on 80 acres the recovery should be about 2½ times as much as only one well. Again four wells on a 160-acre tract will produce three (to three plus) times as much as only one well on the 160 acres. Figure 2 shows this increase in ultimate recovery in relation to increase in well density.

Wide spacing for deep wells is being advocated by some operators. Just now the new Lindsay area of Southern Oklahoma, with its one well producing from formations below 10,000 feet, is receiving the attention of these disciples of wide spacing. Lindsay can be relied upon to give up its oil in about the same manner that our other fields have done. Therefore, if we use the studies of the performances of our older fields with their numerous spacing patterns we are able to make estimates of what to expect in the way of recoveries and costs under various spacings for Lindsay. Figure 5 shows probable increase in recovery by increasing well density from 80 acres per well to 10 acres per well. Based upon present development and production costs and present price of oil, Figures 3 and 4 respectively show probable cost per net barrel of oil and probable profit per dollar invested under the various spacing patterns. These curves indicate that 20-acre spacing is the maximum pattern that should be employed at Lindsay. They also indicate that 20-acre pattern probably would give the lowest cost per net barrel and the greatest profits per dollar invested for the operator.

Wide spacing will do little to increase profits for deep drilling. The only answer to that problem is a higher price for oil. If a company cannot make money producing oil on a spacing pattern of ten to 20 acres per well it is improbable that it will make a profit by employing any wider pattern. Companies with large lease holdings in an area often find it to their advantage to promote wider spacing. Such big lease ownership may not always be concerned with the maximum recovery of the oil.

Those states with gross production taxes have a taxpayer interest in the proper recovery of their oil. The royalty owner is entitled to expect the operator to practice a reasonable amount of diligence in producing the oil. None of us know how much undiscovered oil is within these United States. So "we the people" have a right to expect the producer to conserve our oil resources by extracting all the oil in a given area that it is economically possible to obtain.

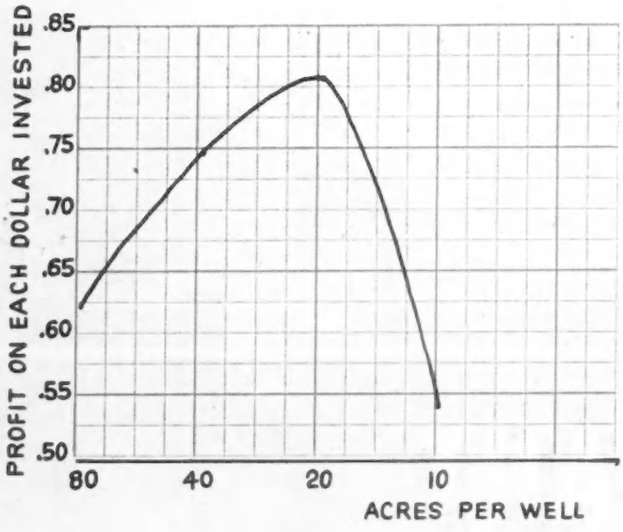

FIGURE 4

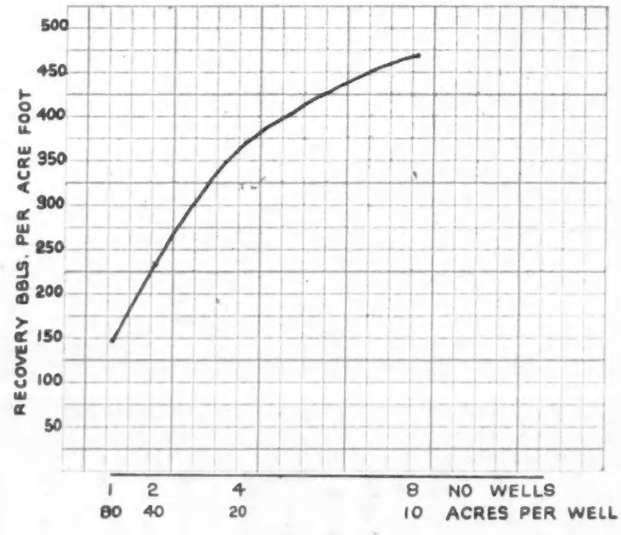

FIGURE 5
Probable increase in recovery per acre foot by increasing well density from 80 to 10 acres per well.

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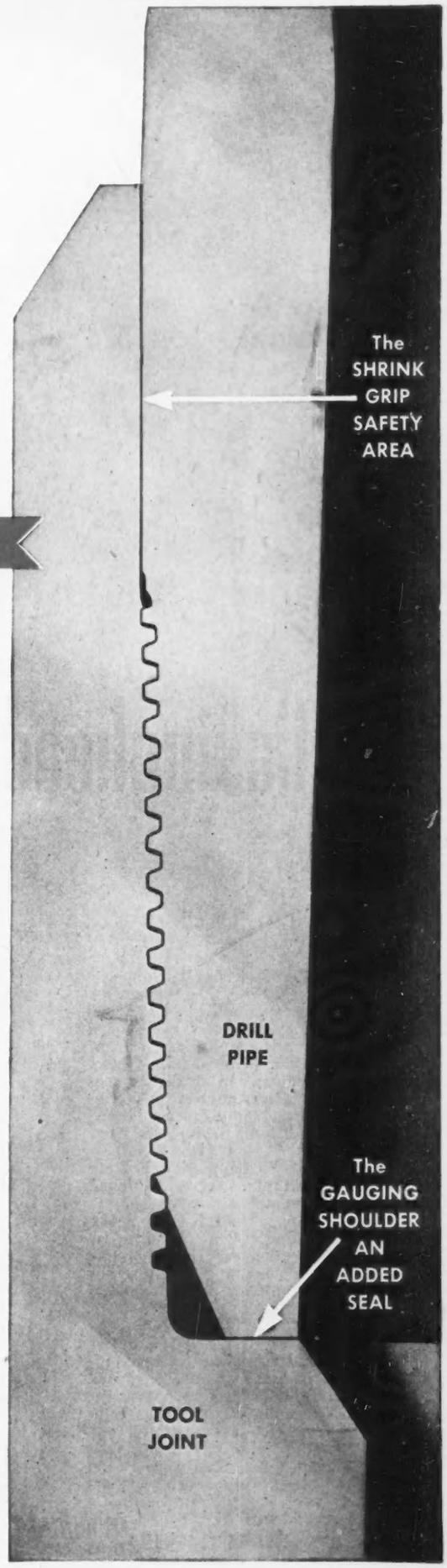

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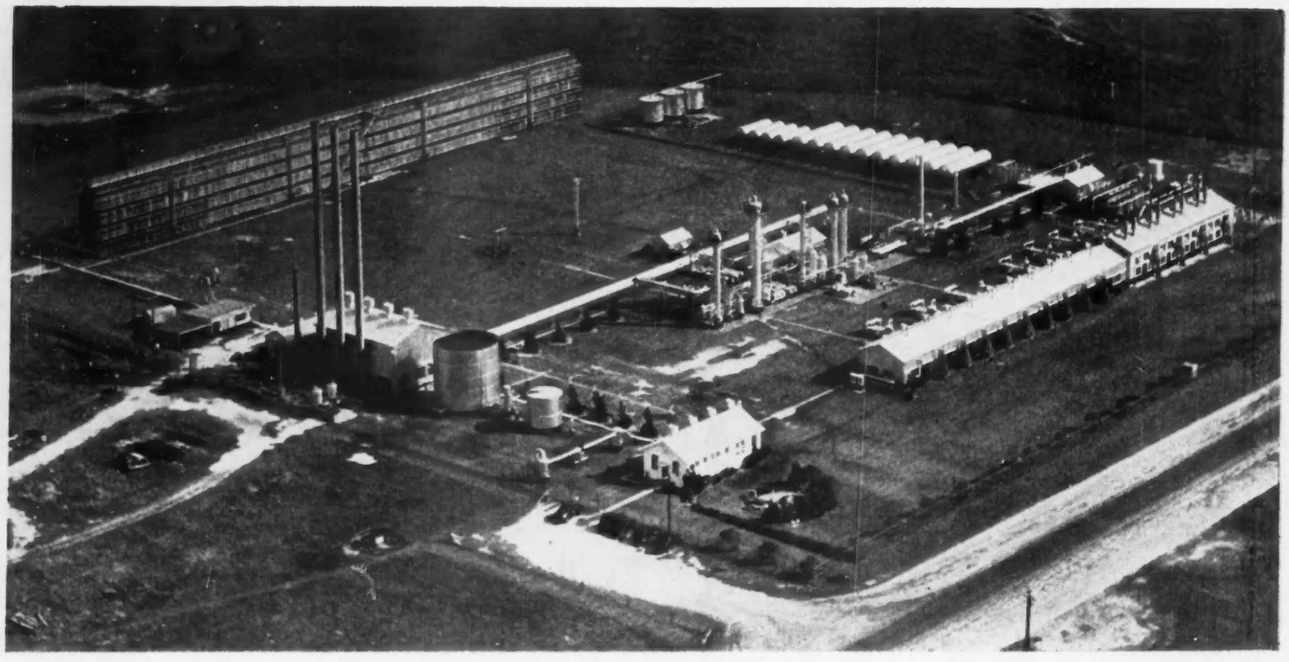


Aerial view of Humble's Tomball gasoline plant —Photo by Elwood M. Payne

Casinghead Gas Conservation

By C. C. PRYOR, Staff Writer

HUMBLE Oil & Refining Company has announced a $4,783,000 program for additional conservation of 60,722,000 cubic feet per day of vented casinghead gas in 11 fields in the Gulf Coast area of Texas. More than $1,900,000 has been spent by the company in an earlier program. Additional casinghead gas conservation programs have been planned for other areas in which Humble is operating.

At the Railroad Commission hearing in Corpus Christi, plans were mentioned for conserving vented casinghead gas in the Tom O'Connor and Kelsey fields. Gas in the O'Connor field produced by Humble will be delivered by pipe line to an available market, and a compressor station will be built in the Kelsey field to return vented gas to the reservoir.

Follows Committee Ideas

First presentation of the program for additional expenditure was made by Rex G. Baker, Humble general counsel at the February 20 meeting of the Texas Railroad Commission in Houston.

In presenting the District 3 (Gulf Coast) program, Baker stated that the policy of the company is in general accord with those engineering principles and recommendations of the Gas Conservation Engineering Committee appointed by the Texas Railroad Commission. This policy includes the principles of (1) completing and operating oil wells and oil reservoirs in such a manner as to result in a minimum production of casinghead gas and maximum efficient oil recovery, and (2) marketing, consuming, or returning to the producing reservoir the produced casinghead gas wherever such disposition is economically feasible.

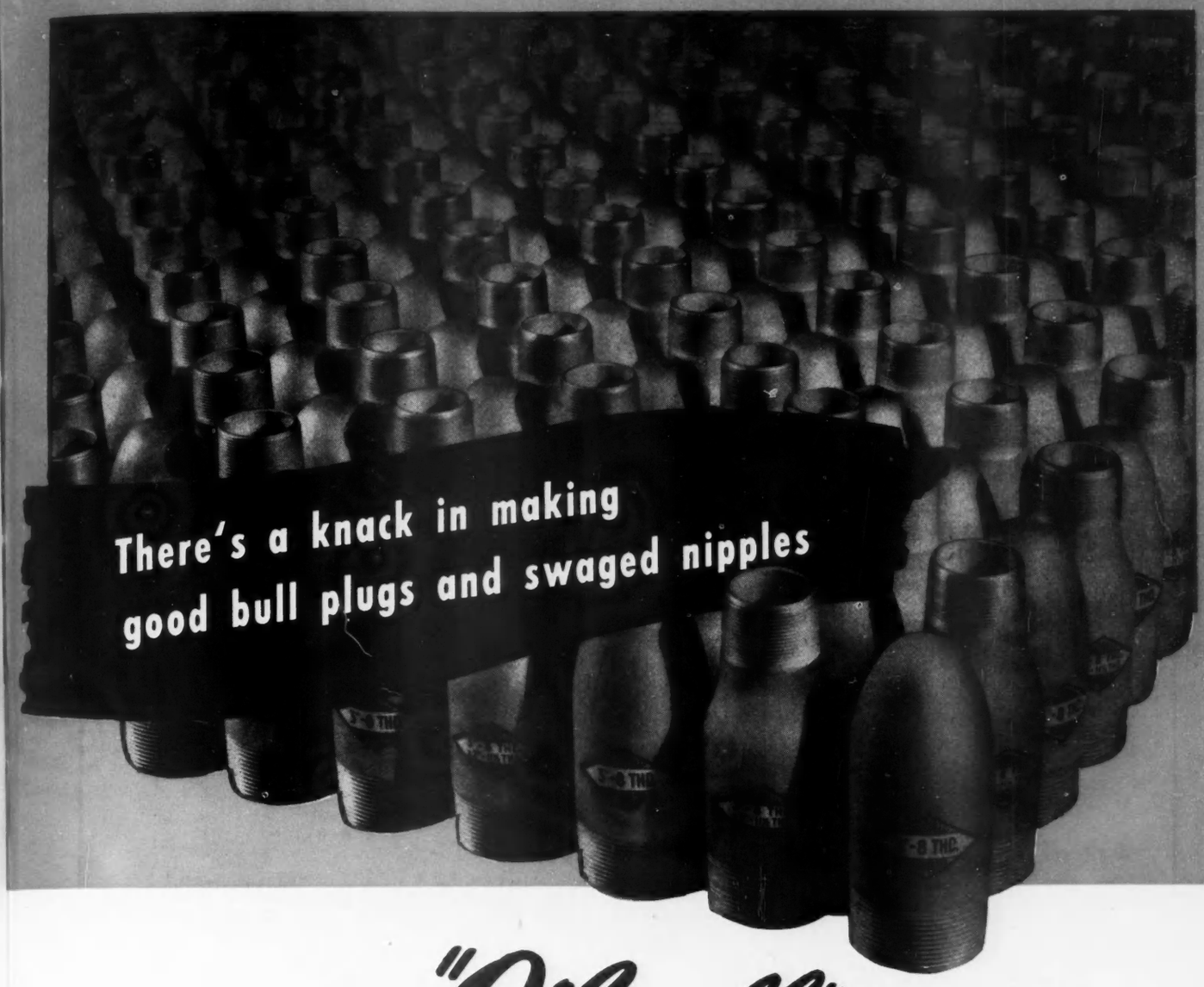
Humble's program to reduce vented gas by 60 million feet daily along Texas Coast

Humble has made definite plans for conserving the vented casinghead gas in 11 fields amounting to 60,722,000 cubic feet per day. This figure represents 76.4 percent of the total 79,526,000 cubic feet per day of gas vented on Humble leases in District 3.

Conservation in Other Fields

In three other fields, Conroe, Thompson, and South Thompson, the total volume of gas vented is 12,726,000 cubic feet per day. Inasmuch as other operators are involved in the fields, Humble has offered full cooperation in discussions for a definite conservation program. Key to the program for these fields is a market for the gas. Inclusion of the fields in the program would increase the total conservation volume to 73,448,000 cubic feet per day, or 92.3 percent of Humble's vented gas in the district.

There are five fields, Cedar Point, Hardin, Magnet Withers, Rowan, and Segno Deep, venting a total of 4,853,000 cubic feet per day, in which a number of operators are concerned. A definite conservation program is considered desirable and is under advisement. Full co-



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operation has been offered by Humble toward that objective. The company is a minor operator in three other fields, Barbers Hill, Livingston, and West Columbia—old, venting a total of 1,225,000 cubic feet per day, but does not deem a conservation program economically feasible due to reservoir conditions and the small gas volume vented.

The 11 fields provided for in the extended conservation program are Amelia, Anahuac, Clear Lake Project — East Clear Lake, Dickinson, Gillock, and Webster—Hastings, Lovell Lake, North Katy, Red Fish Reef, and Tomball.

Amelia Field

Vented casinghead gas in the Amelia field is 1,725,000 cubic feet per day. Conservation is planned through return of the gas to the reservoir, if suitable arrangements can be made with the royalty owners, at an estimated investment of $135,000. Humble produces about 3710 barrels per day of oil, 97 percent of the field, by operation of 99 of the 104 wells. Total gas production is 2,380,000 cubic feet per day of which 655,000 cubic feet is used in field operations.

Consisting of a non-piercement dome without evidence of major faulting in the producing limits, the field produces under an active water drive. Reservoir pressure has been depleted only 3.3 percent below the estimated original pressure of 3150 pounds per square inch and produces with a gas-oil ratio of 642 cubic feet per barrel. From reservoir calculations a slight contraction of the which overlies a deep-seated salt dome divided into several reservoirs by complex faulting. About 84 percent of the oil and 60 percent of the gas is produced from the Frio sand at a gas-oil ratio of 770 cubic feet per barrel. Efficient operation of the field is maintained without formation injection of gas because of the active water drive and the low gas-oil ratio of the main reservoir. Other reservoirs are small and faulted.

Clear Lake Project

An expenditure of approximately $2 million for a compressor plant and high-pressure gasoline plant will eliminate the venting of 25,183,000 cubic feet per day gas cap that may be occurring because of the strong water drive could be prevented by injection of the vented casinghead gas to the reservoir.

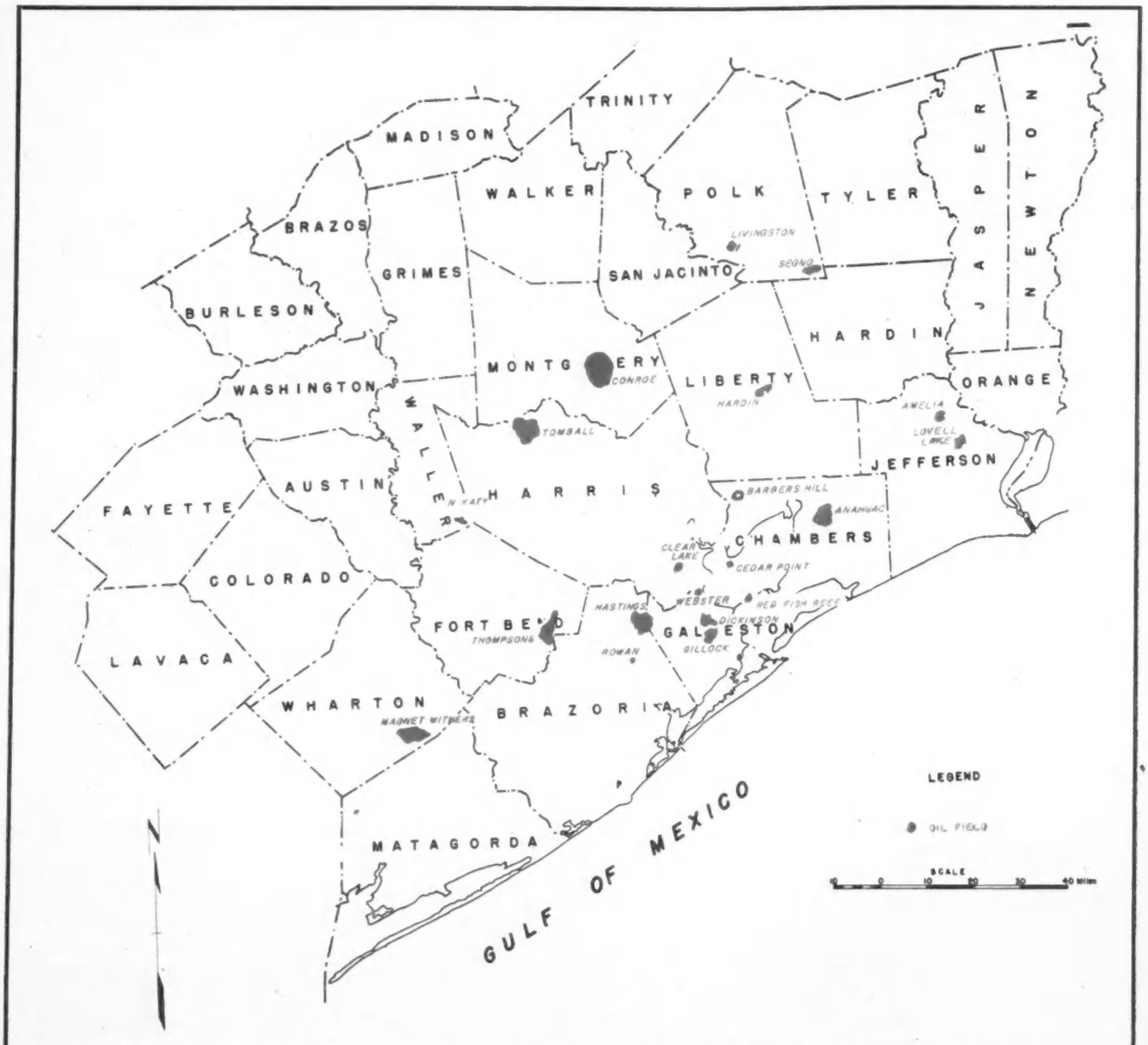
Anahuac Field

Humble plans construction of a gathering system, compressor station, and gasoline plant of sufficient capacity for compression of the gas produced in Anahuac for delivery to an available market. Estimated cost of the project is $2 million.

Anahuac field contains 359 wells with 285 oeprated by Humble to produce 19,849 barrels per day, or 80 percent of the field production, and 21,124,000 cubic feet of gas. Net gas-oil ratio is 1062 cubic feet per barrel. Field operations require 1,130,000 cubic feet of gas and the

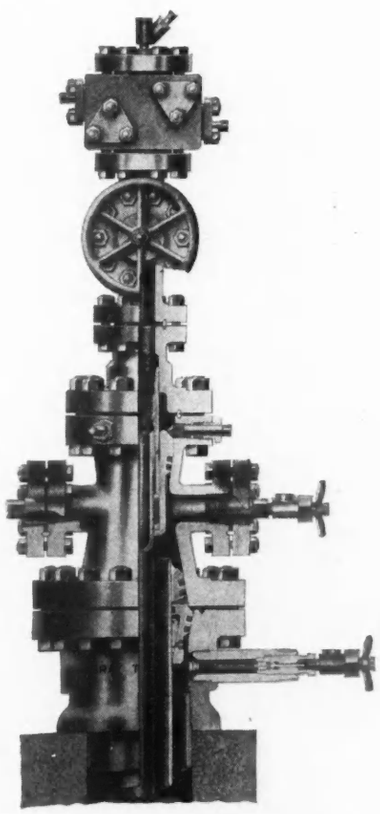
Note data table on page 60.

Article concluded, page 62.



Fields in the Upper Texas Gulf Coast in which Humble Oil & Refining Company either plans or is studying the possibilities of inaugurating gas conservation programs.

SIMPLICITY is the first requisite of well control



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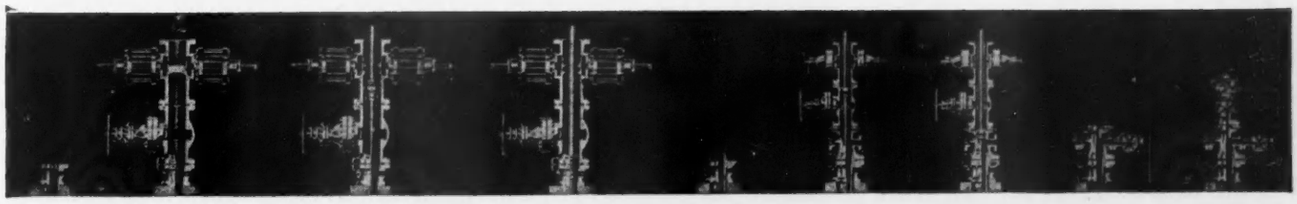


Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

Summary of Oil and Casinghead Gas Production by Humble Oil & Refining Company, December, 1945, Railroad Commission District 3

FIELD	Principal Operators	No. Prod. Wells		OIL PRODUCTION			Humble Casinghead Gas Prod. Mcf/Day	*Gross Humble Average Gas-Oil Ratio Cu. Ft./Bbl.	†Net Humble Average Gas-Oil Ratio Cu. Ft./Bbl.	DISTRIBUTION OF HUMBLE'S GAS PRODUCTION—MCF/DAY							
												Vented on Lease					GPM
		Field	Humble	Field Bbls./D.	Humble Bbls./D.	Percent Humble				Field Oper.	Gas Lift (Hi-Pres. Trap Csghd. Gas)	Volume	Percent	Gas to Plants	Sales	Total Vented	Content
I. Fields for which a Definite Conservation Program for Vented Gas Has Been Planned																	
Amelia	Humble	104	99	3,839	3,710	97	2,380	642	642	655	....	1,725	72	.....	....	1,725	0.15
Anahuac	Humble, Gulf, Sun	359	285	24,826	19,849	80	21,124	1,064	1,062	1,130	....	19,994	95	.....	....	19,994	0.36
Clear Lake Project:																	
East Clear Lake	Humble	34	34	3,227	3,227	100	3,274	1,015	982	433	105	2,736	84	.....	....	2,736	0.45
Dickinson	Humble, Pure, Atlantic	43	18	1,286	312	24	4,183	13,410	5,541	312	....	106	3	3,765	....	3,483	0.45
Gillock	Humble, Coast. Pet., Pan-American	93	27	3,680	664	18	2,973	4,477	2,330	.....	....	117	4	2,856	....	2,679	0.45
	Sub Total—Dickinson & Gillock	136	45	4,966	976	20	7,156	7,340	3,350	312	....	223	3	6,621	....	6,162	....
Webster	Humble	211	209	45,990	45,798	99	19,867	434	422	3,007	560	16,285	82	.....	15	16,285	0.45
	Sub Total—Clear Lake Project	381	288	54,183	50,001	92	30,297	606	5,923	3,752	665	19,244	64	6,621	15	25,183	....
Hastings	Stanolind, Humble, Continental	682	157	46,496	10,682	23	7,250	679	561	242	1,256	5,752	79	.....	....	5,752	0.50
Lovell Lake	Humble, Shell, Stanolind	118	96	4,774	3,935	82	60,078	15,268	1,140	1,774	....	4,690	8	‡53,614	....	4,690	0.29
North Katy	Humble, Stanolind	40	31	1,612	1,150	71	5,012	4,358	4,358	2,558	....	2,451	49	.....	3	2,451	0.50
Red Fish Reef	Humble	15	15	1,600	1,600	100	3,674	2,296	2,296	3,419	....	225	7	.....	....	255	0.13
Tomball	Humble, Amerada, Shell, Texas Co.	450	343	10,433	7,569	73	18,512	2,446	1,349	.....	....	672	4	17,840	....	672	1.00
	Sub Total	2,149	1,314	147,763	98,496	67	148,327	1,506	798	13,530	1,921	54,783	37	78,075	18	60,722	....
II. Fields in which Conservation Program Is Under Advisement																	
Conroe	Humble, Tide Water, G. W. Strake, Sun, Std. of Kansas, Houston Oil	899	369	50,805	23,260	46	17,238	741	632	544	....	4,232	25	12,462	....	6,682	1.50
Thompsons	Humble, Gulf	224	89	20,448	11,241	55	3,974	354	354	512	....	3,425	86	.....	37	3,425	0.20
Thompsons, South	Humble, Gulf	83	25	6,080	2,679	44	816	365	305	197	....	619	76	.....	....	619	....
	Sub Total—Thompsons & S. Thomp.	307	114	26,528	13,920	52	4,790	344	344	709	....	4,044	84	.....	37	4,044	....
	Sub Total	1,206	483	77,333	37,180	48	22,028	592	524	1,253	....	8,276	38	12,462	37	1,726	....
III. Fields in which Humble Produces Small Volume of Gas but Will Cooperate with Other Operators in Reasonable Program																	
Cedar Point	Std. of Texas	18	2	1,424	100	7	390	3,900	3,900	85	....	305	78	.....	....	305	0.25
Hardin	Humble, Atlantic, Woodley Pet.	110	29	2,777	931	34	2,665	2,862	2,796	52	....	30	1	2,583	....	2,470	0.47
Magnet-Withers	Texas Co., Humble, McDannald	267	50	7,532	1,260	17	1,071	850	675	17	....	1,054	98	.....	....	1,054	0.11
Rowan	Rowan, Humble, Stanolind	8	3	679	261	38	276	1,057	1,057	.....	....	276	100	.....	....	276	....
Segno Deep	Gulf, Humble	79	30	2,437	738	30	1,055	1,430	1,430	301	....	748	71	.....	6	748	0.40
	Sub Total	482	114	14,849	3,290	22	5,457	1,659	1,526	455	....	2,413	44	2,583	6	4,853	....
IV. Fields with Negligible Gas Volume—Uneconomical to Handle																	
Barbers Hill	Texas Gulg Prod. Co., Stanolind, Mills Bennett, Sun	122	5	4,894	341	7	286	839	364	1	‡162	123	99	.....	....	123	....
Livingston	Humble, Gem	62	20	1,326	568	43	116	205	205	116	....	.....	....	.....	....	.....	0.38
Livingston (Wilcox)	Humble, Shell	22	18	1,836	861	47	877	1,019	1,019	.....	....	877	100	.....	....	877	0.25
Livingston (Sparta)	Gem, Humble	36	5	974	242	25	226	933	933	.....	....	225	99	.....	1	225	0.24
	Sub Total—Livingston	120	43	4,136	1,671	40	1,219	730	730	116	....	1,102	90	.....	1	1,102	....
West Columbia Old	Texas, Hogg Oil, Gulf	39	5	1,916	53	3	Negligible (Est. 1 Mcf/Day)			.....	....	.....	....	.....	....	.....	....
	Sub Total	281	53	10,946	2,065	19	1,505	729	698	117	‡162	1,225	81	.....	1	1,225	....
	Grand Total—District III	4,118	1,964	250,891	142,031	57	177,317	1,248	736	15,355	2,083	66,697	38	93,120	62	79,526	....

*Produced gas-oil ratio. † Formation gas-oil ratio. ‡ Returned to formation. ‡ Compressed for gas lift.

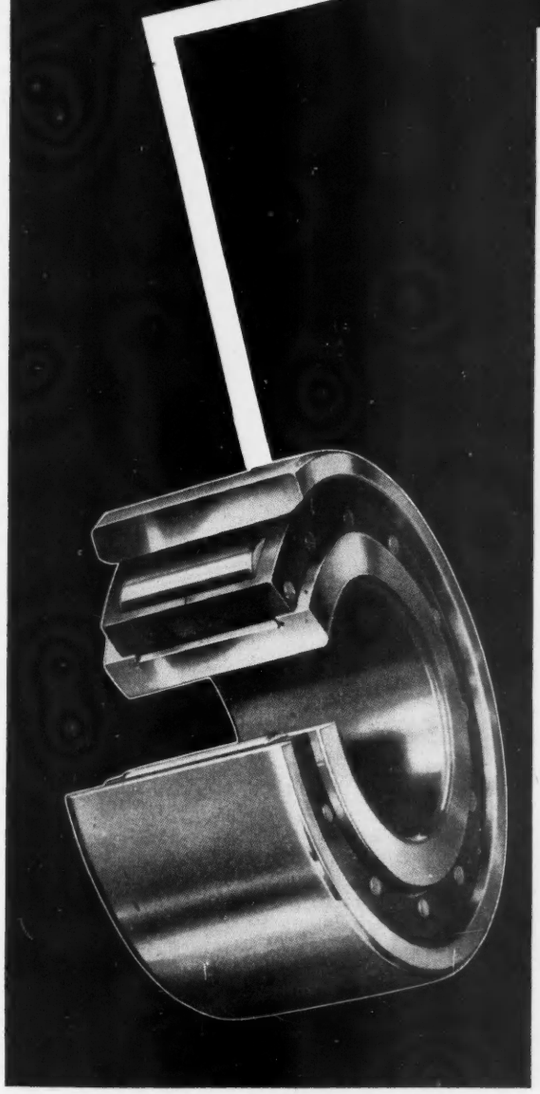
Cut down on

MAINTENANCE Shut-downs

WITH

ROLLWAY

RIGHT-ANGLE LOADING



Now—when you are sweating out production to catch up with peacetime demand—when every shut-down means lost marketing opportunity as well as costly labor and machines standing idle—give Rollway *right-angle loading* a chance to prove what it can do for you in the way of preventive maintenance.

Rollway Right-Angle Roller Bearings will help your machines to run longer under heavier loads . . . with lower maintenance cost . . . and low bearing-replacement costs. That's because Rollway *right-angle loading* splits all compound loads into the two simple components of pure radial and pure thrust . . . carries each of these components on a separate bearing assembly at *right angles to the roller axis*. It reduces the unit loading on rollers and bearings. Insures lower starting and running torque. Eliminates all resultants from oblique loads, all piling up of thrust and radial loads on the same bearings. That's why you get longer periods of precision operation, with fewer shut-downs for service or replacement.

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remainder, 19,994,000 cubic feet is vented.

Production is from the Frio and Marginulina sands of the Anahuac field, of casing head gas by Humble and other operators in the Clear Lake Project (East Clear Lake, Dickinson, Gillock, and Webster). After processing, the residue gas will be delivered to a transmission system. Material has been ordered and construction begun on this project. In the East Clear Lake field, Humble produces 3227 barrels per day of oil and 3,274,000 cubic feet per day of casinghead gas from the total 34 wells in the field. Production is obtained with a net gas-oil ratio of 982 cubic feet per barrel excluding gas-lift gas, and a gross gas-oil ratio of 1015 cubic feet per barrel. About 433,000 cubic feet per day of gas is used in field operations. Production is from the Frio sands overlying a deep-seated salt dome and having a strong water drive. Maintenance of a low gas-oil ratio has been difficult, although an extensive workover program has been completed recently.

Wells in the Dickinson-Gillock field operated by Humble produce 976 barrels per day of oil, or 20 percent of the field total, and 7,156,000 cubic feet per day of gas. Of the total gas produced, 223,000 cubic feet is vented on the leases, and 6,621,000 cubic feet is gathered and processed through a low-pressure gasoline plant. The plant residue gas, 6,162,000 cubic feet per day is vented.

Production of the field, gas-oil ratio 3350 cubic feet per barrel, is from a deep-seated multifaulted domal structure having as many as six producing horizons and numerous reservoirs. Some of the reservoirs have been depleted and are predominantly gas reservoirs.

The plans are to remove the gasoline plant at Dickinson-Gillock and install compressors to deliver the gas to Clear Lake for processing in the plant under construction. The compressor plant and Clear Lake plant will practically eliminate venting of Humble casinghead gas in the field.

Webster Field

Vented casinghead gas produced in the Webster field, 16,285,000 cubic feet per day, will be gathered and delivered to the Clear Lake plant for processing. Humble produces 99 percent of the total field production (45,798 barrels per day) from 209 of 211 wells in the field. Casinghead gas production is 19,867,000 cubic feet per day, including 560,000 cubic feet per day from high-pressure separators used for gas lift; 3,007,000 cubic feet per day is used for field operations. Production is from the Frio formation overlying a deep-seated salt dome. As reservoir pressure is obtained from an active water drive, formation injection of gas is not considered necessary for efficient operation.

Hastings Field

Humble vented casinghead gas, 5,752,000 cubic feet per day, in the Hastings field will be delivered to a compressor station and gasoline plant to be built by Stanolind Oil & Gas Company in the field. Residue gas not required for lease operations will be sold or returned to underground storage. The Stanolind plant is expected to be completed this year and will have a capacity of 40 million cubic feet per day. It is part of a $4 million program initiated by Stanolind to utilize 82 percent, 25 million cubic feet per day, of the casinghead gas produced in the Hastings field.

Total casinghead gas produced by Humble is 7,250,000 cubic feet per day including 1,256,000 cubic feet per day taken from high-pressure separators for gas-lift operations, with 10,682 barrels of oil from 157 of the 682 wells in the field. Gross gas-oil ratio is 679 cubic feet per barrel, including gas-lift gas; net gas-oil ratio is 561 cubic feet per barrel. At present, field operations consume 242,000 cubic feet of gas and 5,752,000 cubic feet per day is vented on the leases.

Lovell Lake Field

One of the earliest casinghead conservtion projects in the Gulf Coast area, wherein gas was returned to the formation to maintain the gas cap, was initiated by Humble in cooperation with other operators in December, 1941, in Lovell Lake field. Humble has expended $456,000 to date on this project. This resrevoir, the upper Frio, contains an unusually thin oil column overlain by a relatively large gas cap and an active water drive. Problems involved in completion of wells indicated extreme difficulty in maintaining a low gas-oil ratio. After a hearing in August, 1941, the Railroad Commission authorized gas injection into the reservoir and use of a net gas-oil ratio in determining well allowables.

Lovell Lake overlies a dome with production found on the downthrown side of a fault having a maximum throw of 650 feet. The field contains three producing sands: the Marginulina sand, classified as a gas reservoir in June, 1945; the Upper Frio sand, oil-producing with a large gas cap into which about 97.6 percent of the produced gas was returned during December, 1945, and the Lower Frio sand, an oil-producing sand with a gas cap into which gas has not been injected.

Ninety-six of the 118 producing wells in the Lovell Lake field are operated by Humble and produce 3935 barrels per day of oil, or 82 percent of the total field production. Gas produced by Humble is 60,078,000 cubic feet per day. Of this total, 1,774,000 cubic feet is required for field operations; 53,614,000 cubic feet is injected into the producing reservoir, the Upper Frio; and 4,690,000 cubic feet is vented on the leases. The net average gas-oil ratio of both oil producing sands is 1140 cubic feet per barrel.

The materials to gather and compress 4,690,000 cubic feet per day of vented gas for delivery to a gas transmission system has been ordered. Estimated cost of this portion of the project is $175,000. An opportunity to market their vented casinghead gas has been offered operators in the field.

The desirability of returning additional gas to the Upper Frio reservoir and beginning the injection of gas to the Lower Frio has been indicated by reservoir studies. Plans have been completed to return 1,700,000 cubic feet per day of high-pressure gas to the Lower Frio and to increase by 1 million cubic feet per day the volume of gas injected into the Upper Frio reservoirs. High-pressure gas diverted from the transmission line for return to the reservoir will be replaced by compressing vented casinghead gas to 600 pounds per square inch.

North Katy Field

Operators have authorized the expenditure of $470,000 for facilities to handle gas vented in the North Katy field. This gas will be stripped of its gasoline content, compressed, and the residue sold to the Tennessee Gas and Transmission Company.

This plan has been adopted as the pressure-production records show that both No. 1 and No. 2 sands of the Katy field have effective water drives, and large gas caps eliminating the necessity of returning gas to the reservoir.

In the North Katy field, Humble operates 31 of the 40 wells for a current production of 1150 barrels per day (71 percent of the field total) and 5,012,000 cubic feet per day of gas. Gas-oil ratio is 4358 cubic feet per barrel. Field use of gas amounts to 2,558,000 cubic feet per day and the remaining 2,451,000 cubic feet is vented on the lease. Oil is found in narrow intervals around the periphery of the No. 1 and No. 2 gas sands.

Red Fish Reef Field

Field operations in the Red Fish Reef field currently require 3,419,000 cubic feet per day, largely for drilling fuel, of the total 3,674,000 cubic feet per day of casinghead gas produced by the 15 wells in the field. The 255,000 cubic feet remaining is vented. At such time as the demand for drilling fuel decreases, the wells will be produced through a high-pressure separator and the casinghead gas delivered to a gas transmission system.

Total oil production of Red Fish Reef is 1600 barrels per day with a gas-oil ratio of 2296 cubic feet per barrel. The structure is a multifaulted deep-seated dome with a major north-south fault. Only gas production has been found in wells drilled on the east side of the major fault, whereas oil production is found in six Frio sands between 8600 and 11,000 feet in numerous producing reservoirs on the west side of the fault.

Tomball Field

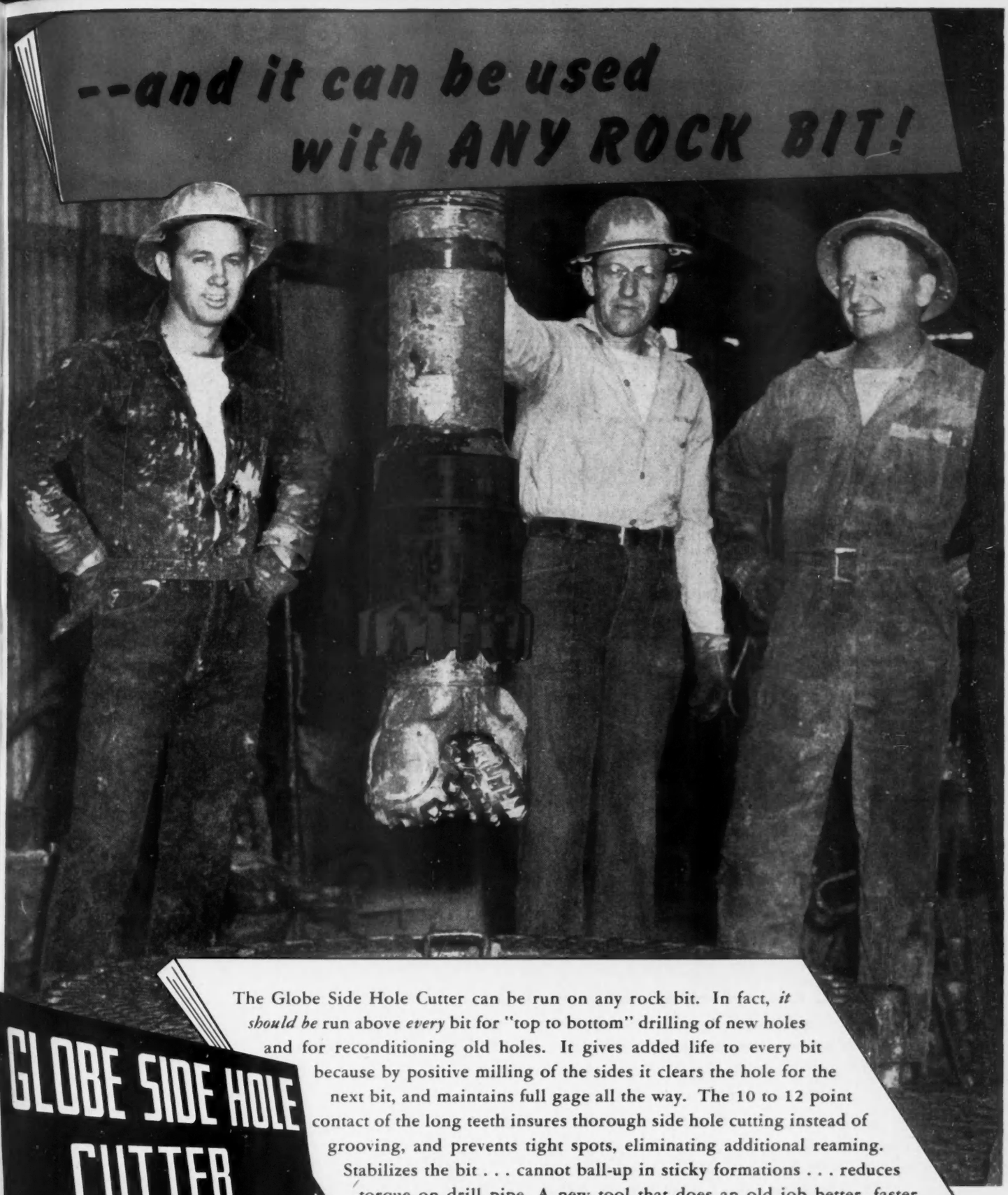
Facilities to gather, compress, process, and market the low-pressure gas produced with oil in Tomball field was installed by Humble in 1937. These facilities were enlarged in 1944 to handle an increased volume of low-pressure gas and compress casinghead gas for gas-lift purposes rather than produce gas-well gas for this purpose. A total of $1,191,000 was expended to effect these operations.

Humble operates 343 of the 450 producing wells for a total of 7569 barrels per day of oil, or 73 percent of the field total, with a casinghead gas production of 18,512,000 cubic feet per day, including gas-lift gas. The net gas-oil ratio is 1349 cubic feet per barrel. With the exception of 672,000 cubic feet the produced casinghead gas is processed in the gasoline plant, and the residue gas, except the volume returned to the leases for gas-lift operations and that used for plant fuel, delivered to a gas transmission system.

The circular dome structure of the field has an uplift of 600 feet above normal and is cut by numerous faults having a general northeast-southeast direction. Production is found in a series of sands in the upper part of the Cockfield formation. All the sands have gas caps and an active water drive.

Most of the 672,000 cubic feet of gas not included in the total volume gathered for the plant is vented on the leases because the plant is operating at capacity. Humble anticipates that the application of the transfer of allowable rule will eliminate practically all of the vented gas.

--and it can be used with ANY ROCK BIT!



GLOBE SIDE HOLE CUTTER

PATENT APPLIED FOR

The Globe Side Hole Cutter can be run on any rock bit. In fact, *it should be* run above *every* bit for "top to bottom" drilling of new holes and for reconditioning old holes. It gives added life to every bit because by positive milling of the sides it clears the hole for the next bit, and maintains full gage all the way. The 10 to 12 point contact of the long teeth insures thorough side hole cutting instead of grooving, and prevents tight spots, eliminating additional reaming. Stabilizes the bit . . . cannot ball-up in sticky formations . . . reduces torque on drill pipe. A new tool that does an old job better, faster and cheaper.

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DRILLING HINTS

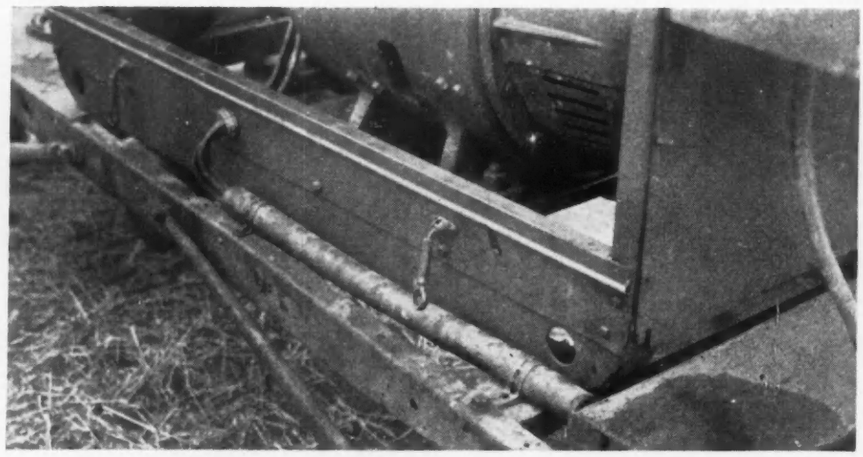
Rubber Hose, Retained by Compression Clamps, Protects Exposed Wiring Against Damage

WIRING GUARDS

To prevent damage caused by vibration and consequent abrasion to the exposed wiring systems of field units, the mechanic of one contracting company has adopted a system wherein all wiring that must be conducted along the outside of the unit housing for any appreciable distance must be encased in conduiting made of rubber hose or radiator-type hose material.

Using common radiator-type adjustable clamps or straps to tie down the conduiting, these tubes have more than paid their way since costly field shutdowns due to wiring troubles are materially reduced and injury due to carelessness of workmen or accidental dropping of tools fail to injure the wiring.

On installations where heavy abrasion or blows may be commonplace, the rubber hose has certain advantages for the material will give and not remain permanently dented to pinch or chafe the wiring inside.



Where excessive moisture is encountered, the ends of the protecting hose cover should be allowed to hang downward, so as to deflect rain, or should be sealed with electrician's tape or by being plugged with soft, dielectric material. When the hose is plugged, it should have a small vent at the bottom to allow changes of volume of the air trapped alongside the wiring leads.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

NOW YOU CAN SCRAPE

By placing the Baker Rotary Casing Scraper above the bit,

THE INSIDE OF YOUR

when you drill out cement, it will remove the sheath

CASING AND HAVE

of hardened cement. also any scale, and dangerous

THE FULL I.D.

burrs left from gun perforating. This leaves your cas-

CLEAN AND SMOOTH

ing clean, smooth, and safe so it cannot damage rub-

FREE FROM BURRS

bers, packers or swabs, or interfere with future "down-

AND HARD CEMENT

the-hole" operations. No serviceman required. Reasonable rental basis.

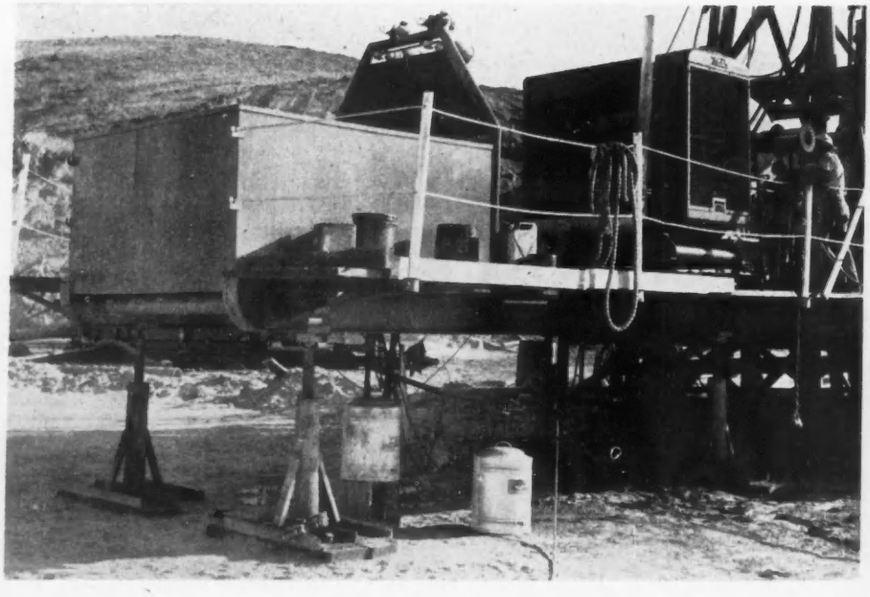
Look on Page 357 of the 1944 BAKER, or Composite Catalog, for the BAKER ROTARY CASING SCRAPER

Water Tanks Counterbalance Steadies Portable Unit

PORTABLE UNITS

Gaining increasing favor among operators of small portable drilling units is the system whereby counter-weighting of the unit while set up at the well is accomplished by a water-filled rectangular tank located at the rear of the rig, beyond the drawworks and power equipment. As shown, the tank is a permanent part of the rig, set well down into and welded to the skid base members. During moving operations the empty tank represents very little extra weight, and it can prove to be unusually handy for transporting small miscellaneous fittings, cordage, etc. In arid regions, the auxiliary tank full of water may prove to be of value at some time during drilling operations.

The rig shown is a type permitting the truck unit to be removed once the rig is set up ready for operation. Exceptionally heavy screw jacks provide sturdy support, bases being made of two short sections of channel iron welded together side by side, and set up on timber mats.



*the Pipeline Supt.**

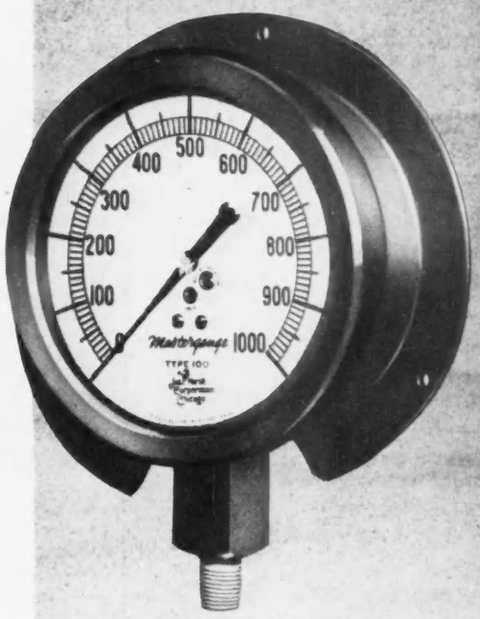
Ask about pressure gauges

FOR those tough jobs out on the pipe lines, no weak-kneed pressure gauges need apply. Ask any pipeline superintendent about it. One of these men told us: "The pulsating pressures here are death to accuracy—or rather *were* until you came along with the Marsh Mastergauge!"

★ ★ ★ ★

Yes, down to the last detail the Marsh Mastergauge is designed and built to take everything a gauge encounters in every branch of the petroleum industry. Its fighting heart is the lathe turned and reamed bourdon tube actuating a sturdy, precision monel and stainless steel movement. Such a gauge isn't easily knocked out of adjustment, but if it is, the Marsh "Recalibrator" gives you the quickest and best method of readjusting it right on the job.

JAS. P. MARSH CORP., 2068 Southport Ave., Chicago 14



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The Marsh branch plant at Houston means prompt shipment from a complete stock; also best facilities for repairing all makes of pressure gauges.

MARSH GAUGES

*One of a series of advertisements dedicated to key men in the petroleum industry

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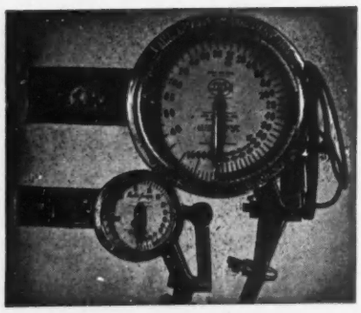

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(Above) Super 500,000# capacity, 14" dial. (Below) Packer Special, Capacity 40,000#, 6" dial. 18 other models for every drilling, well servicing, or work-over need.

With a Line Scale you know the pull on the line, and the weight on the bit in pounds. Accurate, sensitive, rugged and economical.

Line Scales are dependable, even in areas of rapid temperature changes. Repeated tests prove the accuracy of Line Scale readings under all working conditions.

LINE SCALE CO., Inc.

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Oklahoma City, Oklahoma

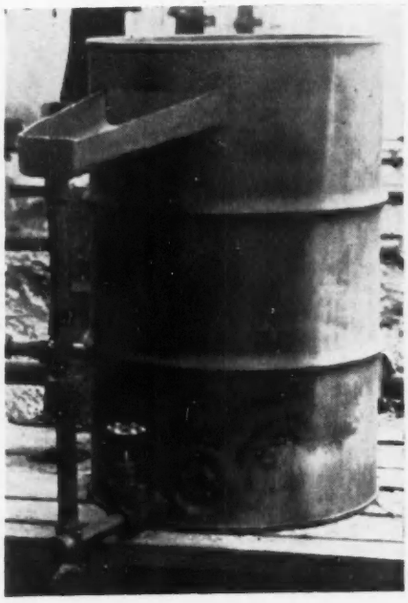
Washer Reclaims Rags for Re-Use Around Equipment

Shortage of rags around the rig has led many companies to provide means for collecting and reclaiming the wipers until they are worn out by the combined action of severe service and protracted boiling with chemicals. One rig devised a rag washer which avoids objections most frequently urged against such a unit—the unsightly appearance of the drum and the damage to the ground in the vicinity; both being caused by the boiling over of the cleaning solution.

WIPER WASHER

A standard 50-gallon oil drum is used as basis for the washer, with a 3 x8-inch opening or slot cut some 6 inches below the top ring. To this slot is fitted a skimming or collector tray, at the outer end of which is welded a drain pipe, tying into any convenient disposal piping. This drop leg is also tied in to the bottom drain of the unit, so that all spent liquid may be drained away.

When used as rag washer, the charge is kept agitated with steam, entering tangentially about ⅓ the distance up from the bottom, condensation of the steam stirring the mass and also adding heat to maintain the temperature near the boiling point. The dirt and oil come out of the rags as froth and foam, slopping over into the collector tray and being drained off without splashing over onto the surroundings.



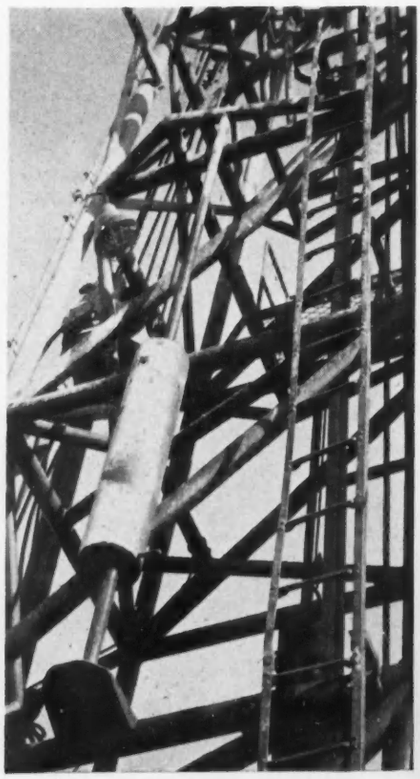
If greater heat is desired, a loose cover is slipped across the top of the drum, the slot preventing build-up of pressure.

Derrick-Mounted Weight Leaves Rig Floor Clear

An unusually compact pair of tong counterweights that requires no special handling or disassembling each time their portable drilling rig is moved, has been devised by the drilling department of one company. Several girts up from the derrick floor level was welded a joint of pipe spanning two outboard supports on the rig structure. Sliding up and down this pipe is the counterweight consisting of a sleeve joint welded inside a larger section of pipe, with the annulus filled with weighting material. Secured to the top of the weight is a light line which extends up to a small sheave, after which it goes on down to the tong at derrick floor level. A similar counterweight is mounted on the opposite side of the derrick.

TONG WEIGHT

Maintenance of this simple type of counterweight is slight. Besides being more or less a permanent part of the rig whenever the latter is moved, it requires only an occasional smearing with heavy grease on the sliding weight guides. A short nubbin of steel rod welded to the bottom of the outer shell permits the counterweight to be moved up or down slightly by hand when necessary.



ITS 178 FEET OF DEPENDABLE STRENGTH

Saved TWO MONTHS DRILLING TIME

Yes, the major operating company which specified this 178 foot Parkersburg derrick . . . one of the tallest in the world . . . for a recent deep West Texas location actually SAVED APPROXIMATELY TWO MONTHS DRILLING TIME ON THE WELL.

Its extra height . . . with greater strength and added safety . . . allowed the operator to pull 136′ stands of pipe at a time, instead of the conventional 90′.

This particular derrick is 178′ with an 8′3″ substructure, plus steel grillage, and a 36′ base to compensate for the extra height.

But it is designed so that you can easily convert any of your standard 136′ Parkersburg derricks into a 178′ tower of strength simply by adding five lower sections.

This conversion is possible because of the unique engineering design, quality steel and skilled workmanship, backed by 48 years of specialized fabricating experience, that goes into every Parkersburg derrick. They have the extra strength to safely handle the heaviest loads and the roughest shocks that can, and may, come.

Ask your Parkersburg Representative to fully explain how you can easily convert your 136′ derricks. And when you're in the field, notice the great number of Parkersburg derricks. You'll know them immediately by the patented Parkersburg pyramid gin pole. It's just part of a portrait of power.

THE PARKERSBURG RIG & REEL CO.

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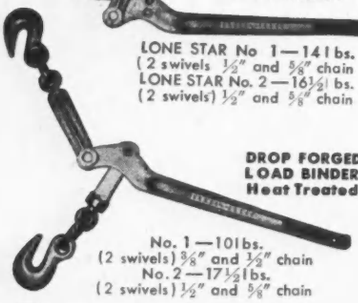
SMOOTH HANDLE STEEL LOAD BINDER

PAT. PENDING

MIDGET (1 swivel) ¼" chain
DELTA (1 swivel) ⅜" chain
DIXIE (2 swivels) ½" chain

MALLEABLE IRON LOAD BINDER Heat Treated

LONE STAR No 1—14 lbs. (2 swivels ½" and ⅝" chain
LONE STAR No. 2—16½ lbs. (2 swivels) ½" and ⅝" chain



DROP FORGED LOAD BINDER Heat Treated

No. 1—10 lbs. (2 swivels) ⅜" and ½" chain
No. 2—17½ lbs. (2 swivels) ½" and ⅝" chain

STEEL CONSTRUCTION WIRE STRETCHERS

No. 90—3 Pulley, plain or roller bearings, ⅜" rope
No. 75—4 Pulley, plain or roller bearings, ⅜" rope
No. 80—4 Pulley, roller bearings, ½" rope

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DRILLING SAFETY

Evidence is present in many oil fields that operators are giving increased attention to the stress of safety precautions for the mutual benefit of company and employe. All companies and drilling contractors have installed safety devices of some sort, and many keep tabulated charts showing number of lost-time accidents occurring over extended periods.

One of the leading safety proponents, in addition to devising effective mechanical safeguards, devotes considerable attention to approaching its safety program from the psychological angle to instill in the minds of all workers the fundamental principles of self preservation. A number of ideas have been utilized in this program, and the low percentage of accidents on record furnishes evidence of the thoroughness with which the problem has been approached.

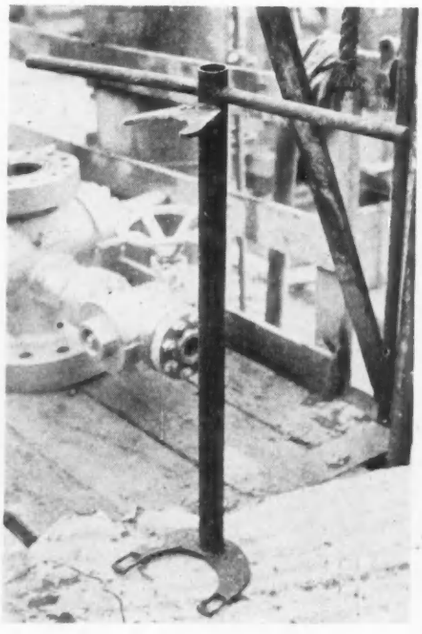
The company has prepared warning signs advocating adherence to safety principles and placed them at advantageous sites on all rigs. The signs are constructed of boards 6 inches wide and approximately 30 long, painted white, with black lettering which conveys an individual safety message appropriate to drilling crew personnel. The signs are mounted at various places about the rigs and derricks, usually suspended by hooks or wiring, and are a constant reminder to employes and to visitors that an ounce of prevention is worth a pound of cure.

Tool for Retainer Ring Works from Above Floor

BLOW-OUT EQUIPMENT

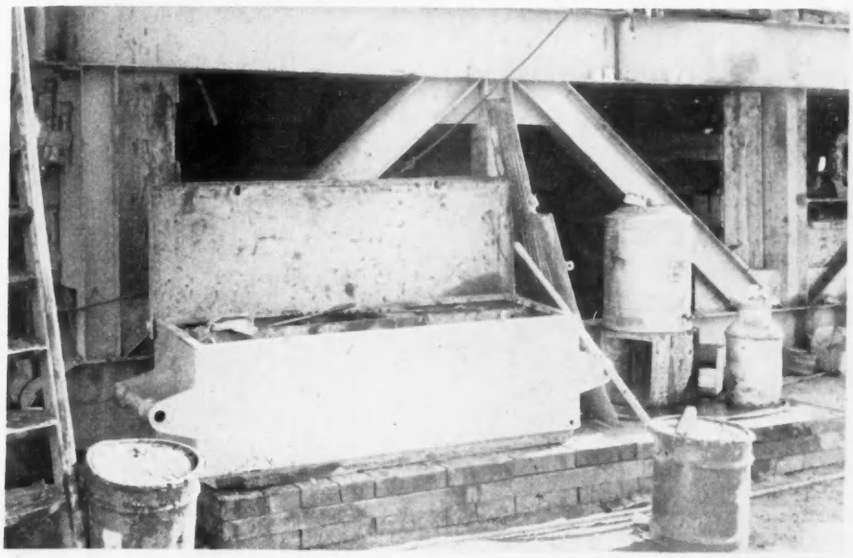
For removing the retainer ring which lies over the lug or pack-off element just above the doughnut in the blow-out preventer, one drilling superintendent devised and built up the tool illustrated. It consists of a piece of 2-inch pipe to which has been welded, at right angles to the stem, a U-shaped piece of metal. This permits the tool to be lowered through the rotary table between it and the string of pipe to recover the ring.

The device saves considerable time, for under previous methods, a man usually would have to climb down into the cellar and laboriously pry loose the ring by hand or with small hand tools. With the long Tee handle on the upper end of the tool, ample leverage is available and the job tabes only a few minutes. The time-saving feature pays dividends by materially reducing down-time during drilling operations.



DRILLING HINTS

Timber Crib Under Floor Supports Tool Box and Accessories



TOOL CARE

The problem of building a shelter for workbench, pipe-fitting supply bins and general storage is solved by one drilling contractor running a string of light, portable-type drilling rigs. Use was made of the usually wasted space beneath the rig sub-floor sections. In the far corner, beneath the engine and drawworks assembly, out of the way of drippings from the rotary table, a section of space was boarded off and lined with spacious shelves and bins, the latter being deep enough to prevent accidental spilling of their contents while the rig is being shifted for hauling between locations. Immediately adjoining the fitting storage room was assembled a small work bench complete with pipe vise and accessories where the majority of pipe-fitting jobs could be turned out.

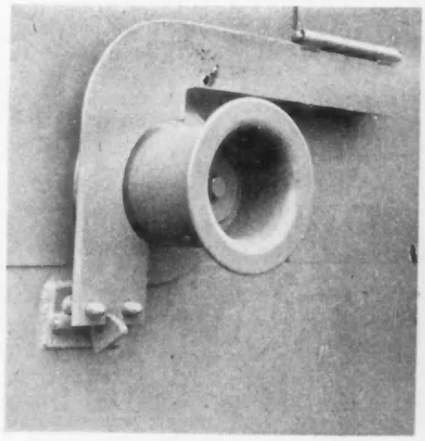
The area currently being drilled is remote from supply centers, and the ability to carry a good supply of fittings without having to transport special housing for storage purposes is saving much drilling and moving time. The sheltered position also makes it possible for men to work in comparative comfort during inclement weather.

Hinged Latch Prevents Fouled Catline and Speeds Runs

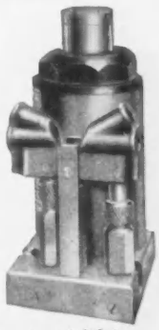
CORDAGE SAFETY

Providing additional safety as well as faster handling of the catline, the guard device employed by one operator is both simple in construction and easy to operate. As shown, the guard consists of a right-angled shape made from light steel plate. Hinged at the upper right end, the plate is held in place an inch or two away from the side of the drawworks housing by a spring-loaded toggle latch at the lower left end. Two holes in the guard plate at the lower end match guide pins in the latch device, assuring positive positioning and latching whenever the guard is dropped in place.

Besides serving as a guard to prevent snarling of the catline and prevent the man from getting his arm or hand caught in it, the hinged feature enables the load end of the line to be placed behind the guard by simply lifting the plate and placing the line behind it, after which the guard is dropped and the remainder of the line wound around the outer portion of the reel. At any time during the catline operations, the load-end of the line may be removed from or replaced behind the shield without removing or disturbing the remainder of the coils on the outer portion of the reel.



Lifting Heavy Loads is Easier Now!



No. 50HJ, capacity 50 tons. Two pumps, high and low speed, can be operated singly or in unison. No. 30HJ, same design, capacity 30 tons. Single pump types; 3, 5, 8, 12 and 20 tons capacity.

Simplex 30 and 50-ton Hydraulic Jacks have eliminated heavy load lifting from the list of tedious, time-consuming jobs. Can be used in horizontal or vertical position, and have double lever sockets to speed operation in close quarters. Ruggedly built with a safety factor of 50%.

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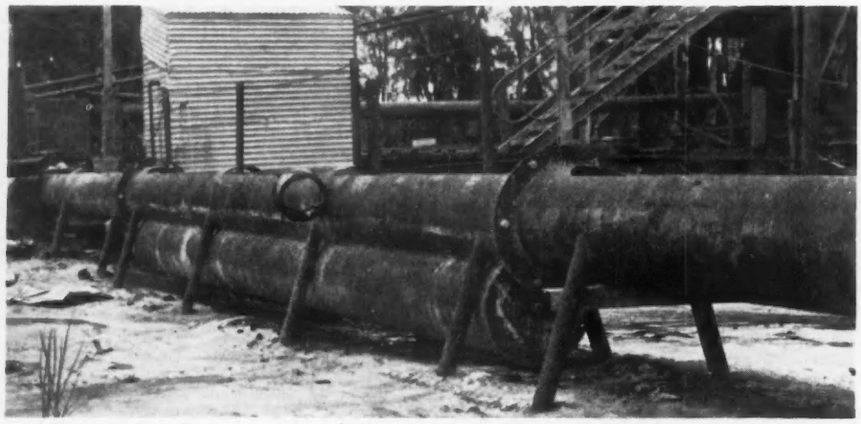
Sand Trap Below Return Prevents Cutting of Pump Parts



Removal of sand and other foreign particles which escape the shale shaker is effected for one operator by use of a trap on the mud flow line located between the shale shaker and the mud pits. The trap is simply a belly below the flow line, providing a settling receptacle for sediment.

SAND REMOVAL

The trap is made of large pipe of identical size with the pipe used for the flow line, and consists of an 18-foot joint with one end weld-sealed, the other having a removable cover. To construct, the wall is sliced by cutting the metal of the section its entire length, leaving an open gap six or eight inches wide. Bottom wall of a joint of flow line pipe is cut similarly, and the settling chamber is welded to fit in position underneath the flow line with the open walls of both pipes coinciding.

Upstream end of the chamber is sealed by welding a circular plate of proper diameter. Lower end is also closed by a circular plate which is secured in position by a single bolt in its center, fitting firmly against the end of the chamber, providing adequate seal against leakage.

When the flow line is mounted for drilling, it is supported by legs which hold the bottom approximately 18 inches above ground. The joint bearing the trap is placed in position with the normal elevation of the line providing sufficient clearance for the trap beneath. Top of the flow line is open to permit easy access by workers when cleaning.

Sand and other sediment flowing toward the mud pit for recirculation through the mud system settles into the chamber as it flows across the trap. When the container fills with the foreign substances, it is easily cleaned by removing the bolted end plate and flushing from above with water. The effectiveness of the device is demonstrated by frequency of the cleanings needed.

Prefabricated Braces Stabilize Extended Stack Set-Up

To improve stability of unusually tall stacks employed on high pressure boiler settings, the drilling department of one company makes use of a rectangular steel strengthening structure which is bolted between pairs of stacks, as shown.

STACK BRACING

The angle iron structures are strengthened with X-bracing and are attached to the stacks by means of ears welded to the stack and which correspond with similar fittings on the end corners of the angle iron structures.

The braces may be placed from the winch truck boom, or may be inserted before erecting the stack string.

Bolted together, these quickly-installed strengthening devices not only keep the stacks properly spaced in relation to each other, but because of their rectangular shape, tend to prevent bending stresses being set up in the stacks. Guy lines support the group of stacks in at right angles to the stiffening devices.

For additional information on equipment or free copies of manufacturers' literature described on these pages, use the mailing card inserted opposite this page

1—Side Hole Cutter

Globe Oil Tools Company announces the Globe Side Hole Cutter, and has applied for a patent on the device. Designed for use in combination with any conventional rock-type drilling bit, it is installed immediately above the bit, the cutter then being less distance off bottom than the diameter of the hole.

Among the advantages claimed for the tool are: elimination of reaming as a separate operation because the cutter reams while the bit drills the hole, and maintains full gage hole all the way to bottom; stabilization of the drilling bit and prevention of the hole from going off vertical in any formation; easy handling because of extreme simplicity and the absence of moving parts; unusual reaming ability due to 10 and 12-point side hole contact; and maximum speed in the drilling of full gage hole.

The cutter has been thoroughly tested and proved in actual drilling service, according to the manufacturer. As, for example, in a well drilled to 7715 feet,

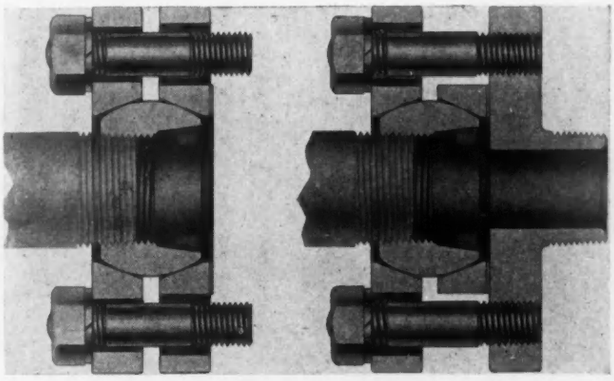
several types of 8¾-inch rock bits were used after reaching 4000 feet. None of these bits ran more than 17½ hours or drilled more than 37 feet of hole before the cutter was used, and all were losing as much as ¾-inch in gage.

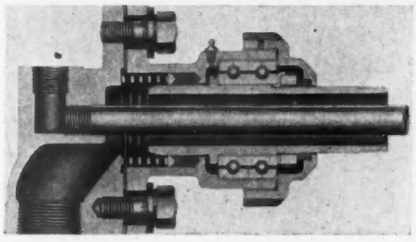
An 8¾-inch cutter was run in this well, and first reamed 21 feet to actual bottom. In combination with a rock bit it then drilled and reamed 16 feet, and when pulled the bit measured 8½ inches, having lost ¼-inch in gage. The cutter measured a full 8¾ inches.

The same cutter was run in again and went directly to bottom, showing that the hole had been reamed to full gage on the previous run. The drilling bit and cutter in combination drilled and reamed 69 feet in 31¾ hours on this run, an increase of nearly 100 percent in both footage and operating time over any previous run. When pulled, the cutter measured 1/32-inch under its original size during the 69-foot run.

(Check item 1 on postcard for more information)

2—Revolving Joints





Barco Manufacturing Company has developed a new type of revolving joint, the smaller sizes of which are adaptable for use on hydraulic and air clutches and brakes, tested up to 1200 pounds hydraulic pressure at 950 rpm.

The joints are used to supply steam, gas or other fluids from a fixed or stationary supply pipe to a rotating drum or member without leakage. They are said to be unique in that they can be adjusted in all direction when used with the Barco adjutable ball flange to compensate for roll misalignment and piping strains, permitting the sleeve free rotation.

The adjustable ball flange is designed to eliminate wear on rotating joints by correcting the error in holes that are tapped eccentric, and it is adjustable in all directions.

All flange dimensions are similar to those used on standard 250-pound flanges. Sizes are ½-inch to 3-inches inclusive. Either right or left hand threads can be furnished as specified.

(Check item 2 on postcard for more information)

3—Pump Ball and Seat

Jadon Equipment Company announces a pump ball and seat made of a new abrasion and corrosion resistant alloy alled tantung, made from tantalum-columbium carbides, which is said to be non-magnetic and practically unbreakable.

The alloy was originally developed for cutting tools, and is said to be self-lubricating. Hardness is obtained in the cast form and the elimination of hardening operations minimizes internal stresses and strains. Tangtung balls and seats are cast to shape and finished ground to API specification. All standard sizes are available.

(Check item 3 on postcard for more information)

4—Fire Extinguisher

The General Detroit Corporation and The General Pacific Corporation announce a carbon dioxide portable fire extinguisher in a complete range of sizes from 2 to 100 lbs. The extinguisher is especially recommended for fighting fires in electrical equipment, oil, grease, and flammable liquids. Since the carbion dioxide is a non-conductor, it is safe to use on electrical fires even while the current is on. It leaves no stain on clothing, equipment, or premises, and is harmless even when used around food. It is equally effective in hot or sub-zero temperature.

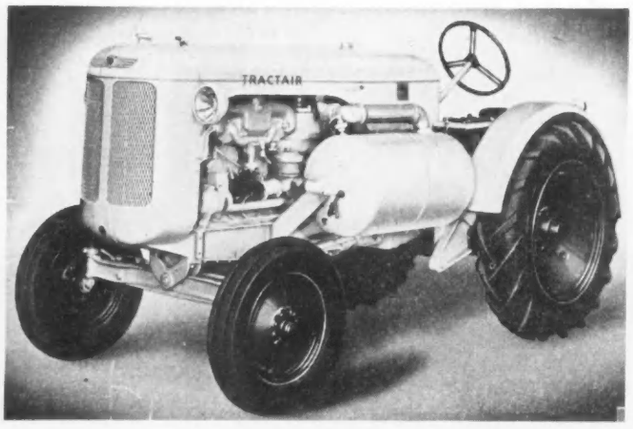
The extinguisher is said to have a remarkably quick and effective action. The heavier-than-air carbon dioxide gas penetrates into remote corners, replacing the oxygen necessary for combustion, and thus smothering the blaze. The cylinder of the extinguisher is made of high-grade steel, with brass fittings. The discharge horn is of shock-resistant plastic construction.

(Check item 4 on postcard for more information)

For additional information on equipment or free copies of manufacturers' literature described on these pages, use the mailing card inserted opposite page 73

5—Tractor-Compressor

The Le Rio Company has developed a combination tractor-compressor unit known as "Tractair" which incorporates an integrally built 105 cfm. compressor with a 35 h.p. wheel tractor, retaining dual utility of both units and resulting in mobility over all types of terrain. It has unusual advantages in the oil producing fields by bringing both pneumatic and mechanical power to applications heretofore inaccessible. A full complement of front and rear mounted power equipment is available and in process of development to add further to the multi-purpose utility of the machine.



(Check item 5 on postcard for more information)

6—Conveyor Trolley

Link-Belt Company has announced development of a new patented conveyor trolley for use on I-beam overhead railways. The simplicity in design of the trolley evolves around two basic elements—the wheel and the one-piece bracket. Of forged steel, the wheel is

held in place by the ball-bearings which are dropped in the inner race through an outside opening after the wheel has been put in position. The inner race is an integral part of the wheel and results in uniform distribution of weight on the outer race. Protective felt seals and lubrication reservoirs are featured and the ball-loading hole may be sealed with a lubrication fitting for ease in greasing, or can be plugged.

(Check item 6 on postcard for more information)

7—Floor Cleaner

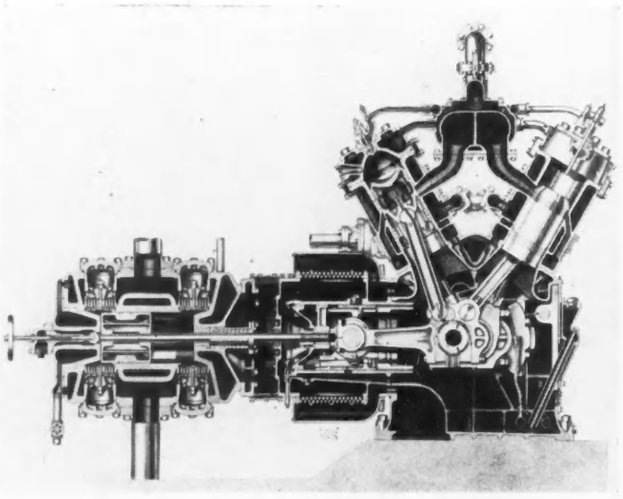
Optimus Detergents Company announces Optimus floor cleaner 1F1O, for cleaning heavy-duty floors. It is claimed that the compound is especially applicable to cement, terazzo or tile floors. The cleaner is a base from which a liquid floor cleaner can be made, or it can be applied to the surface directly, and then rinsed off. The compound is available in 150 and 500-pounds containers.

(Check item 7 on postcard for more information)

8—Compressor

The Cooper Bessemer Corporation has developed the Type GMX Compressor which brings the V-angle design to the lower horsepower field. This 2-cycle engine is built with 4, 6, 8 or 10 cylinders and covers a horsepower range of 250 to 625.

By means of articulated connecting rods, the power impulses and the load are in the same plane, giving greater compactness and an even distribution of bearing load. A scavenging piston for each crank-throw makes for effective scavenging.



The frame, crankshaft, pistons and cylinders of the compressor are built of Meehanite metal.

Bearings are of precision type and are interchangeable.

Power pistons are electro-plated with bearing metal.

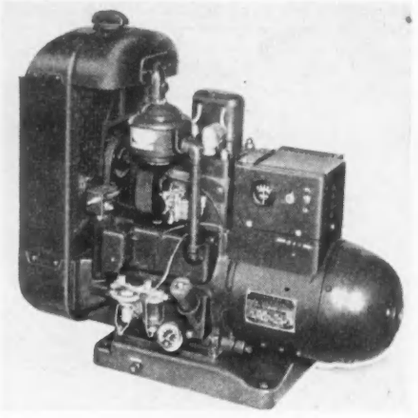
Cooling is by oil, and the symmetrical cylinder head provides uniform cooling and even stress distribution.

By varying the number and size of the compressor cylinders, any combination of volume and pressure is available within the horsepower range. Each pair of power cylinders can be utilized for driving a compressor. Without compressor cylinders the GMX is adaptable to general power applications.

(Check item 8 on postcard for more information)

9—Power Plant

Fairbanks, Morse & Company has developed a combination voltage electric light and power plant, which produces both alternating and direct current simultaneously. The entire output of the plant, 3000 watts, may be used as 115-volt, 60-cycle alternating current with low charging rate to the 32-volt batteries, or any quantity of 32-volt, direct

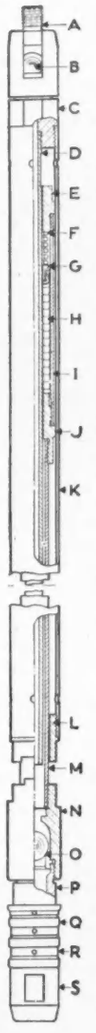


current up to 750 watts plus the remainder in alternating current. A feature of the plant is that 32-volt batteries can be charged at the same time the unit is furnishing alternating current for motors or other equipment in use.

(Check item 9 on postcard for more information)

For additional information on equipment or free copies of manufacturers' literature described on these pages, use the mailing card inserted opposite page 73

10—Rod Pump



Walter O'Bannon Company anounces the Stripwell rod pump for stripper wells which produce from one to ten barrels, designed to increase production by removing the oil at about the rate it enters the well.

The 5/8-inch diameter plunger (D) displaces fluid so slowly that it causes no agitation in the well and lightens the load on rods or surface equipment.

A pull tube (K) encloses and shields the sealing parts from sand and serves to unseat the pump when it is pulled.

Upper and lower valves are fitted with 1¾-inch rib type balls and seats.

A steel plunger is regular equipment for the pump. Cro-Lay plungers are available for use in sandy wells and bronze plungers are available for corrosive wells.

(Check item 10 on postcard for more information)

11—Oil Base Mud

Oil Base, Inc. has announced a new addition to its line of drilling muds. The manufacturers assert that this new oil-base mud has been developed especially for drilling into lower pressure zones. It makes up 60 pounds per cubic foot or 8 pounds per gallon, allowing no filter loss and permitting the free flow of cuttings to the surface. One sack of this new mud will make up one barrel of oil-base drilling fluid and contains the same water contamination regenerating qualities of this particular line drilling muds.

(Check item 11 on postcard for more information)

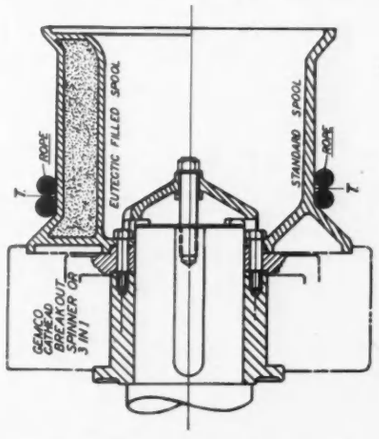
12—Filter Medium

The Micro Metallic Company has developed a stainless steel filter medium which is now commercially available for the first time. This product, available in a wide range of pore sizes, is a strong and ductile porous structure, characterized by high corrosion resistance. These filters are made from fully alloyed stainless steel powder, the particles of which are welded together at the points of contact into a strong porous body, which in the form of thin sheets can be bent about a small radius. Conventional resistance welding techniques can be used to fabricate complicated apparatus. It is expected that its unique combination of corrosion resistance, strength, and ability to be formed and welded will make possible the design of new filter equipment for both laboratory and industrial use. Applications include: filters, aeration units, breathers, flame arrestors, pressure snubbers, selective separations of fluids, and many others. Average pore openings regularly supplied range from 4 to 165 microns (.00015 to .0065 inch).

(Check item 12 on postcard for more information)

13—Cathead

Gemco Oil Tools, Incorporated have manufactured a cathead which utilizes a new and simple cooling principle developed especially for oilfield drilling operations. Similar in theory but not in principle to the water-cooled cathead, the Gemco cathead is cooled by a heat-absorbing process. Instead of circulating water through the hollow head, the annular space is filled with a salt-base material which is heat absorbent and which keeps the cathead cool. As the cathead becomes hot due to friction between the steel surface and the manila line wrapped



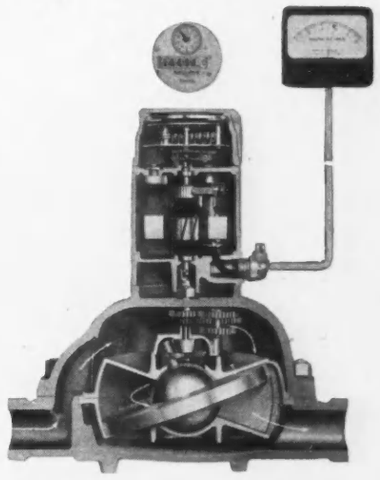
around it, the salt material absorbs the heat. This eutectic material melts at 156° F. and the rotating action of the head produces complete agitation of the solution. Eutectic is non-toxic, neutral to all metals and has a very low vapor-pressure even at 600° F. Should the salt have to be removed, a filling plug can be opened and the salt poured in. Construction of the cathead is similar to that of the standard air-cooled head.

(Check item 13 on postcard for more information)

14—Meter

The Hays Corporation announces the Hays Veriflow meter for measuring, indicating, and totalizing liquids. The outstanding feature of the meter is said to be its ability to indicate the rate of flow at a point remote from where the meter is installed. This is in addition to the rate of flow indication and itnegrator which are integral with the meter itself.

To secure the remote indication, the generator is mounted on top of the flow meter, the same shaft operating both the generator and the totalizing register. No external source of electricity is required because the indicating meter measures the output of the generator and is calibrated to indicate the corresponding rate of liquid flow through the

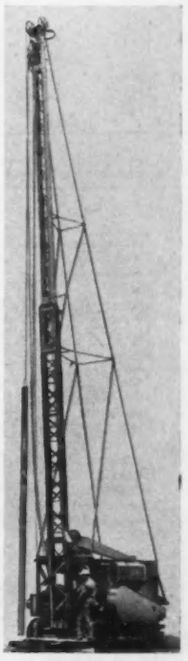


meter. The scale of the indicator can be calibrated to read in any values of flow desired such as gallons per minute.

(Check item 14 on postcard for more information)

15—Portable Spudder

Bucyrus-Erie Company announces a new, all-steel, portable spudder for drilling and servicing wells to moderate depths. The spudder is built to drill top-to-bottom oil and gas wells to 2500 feet, to handle drilling-in operations, cleaning-out, repairing and other servicing work to much greater depths. Features of the spudder, according to manufacturers, are its portability, its easy rigging-up, its fast line speeds and powerful pulls, its accurate control and its efficient drilling action.



The derrick is a cantilever-braced, latticed box structure of the telescoping type, raised and extended by a built-in power winch. With extra casing tackle, it has capacity for handling up to 45,000 pounds static load; an auxiliary derrick leg (extra equipment) permits loads as high as 75,000 pounds. Mountings available are dual pneumatic-tired semi-trailer with a trailer hitch, and skid-type base for sliding to oil-field trucks. Reels include bull reel, sand reel and casing reel, all having two speeds forward and one reverse.

(Check item 15 on postcard for more information)

Week's Crude Runs Increase; Inventory Of Burning Oils at Very Low Level

Crude runs at United States refineries increased considerably during the week ended March 2, and production of crude oil rose moderately from the previous week. Increases occurred in the production of the principal refinery products, while their stocks continued to be drawn upon. However, the rate of withdrawals from stocks of gasoline and light and heavy fuel oils dropped to slightly less than one-half of the previous week's rate. Inventories of the burning oils are now at the lowest level held in a number of years. These trends were revealed by the American Petroleum Institute in their latest weekly report.

Crude oil production in the United States averaged 4,726,000 barrels daily in the week ended March 2, an increase of 12,000 barrels over the average of the week before, but a drop of 39,000 barrels a day, or 8/10 of 1 percent, from the 4,765,000 barrels produced daily during the comparable week of last year.

The daily average of crude oil runs to refinery stills for the week was 4,779,000 barrels, which was 53,000 barrels per day more than domestic crude oil production. This runs-to-stills average topped the previous week's by 184,000 barrels, and was 4000 barrels, or 1/10 of 1 percent, more than that of the same week in 1945.

Stocks of refinable crude were reported by the U. S. Bureau of Mines to be 226,699,000 barrels, as of February 23, an increase of 7,348,000 barrels over the 219,351,000 barrels reported February 24 last year.

Gasoline production for the week ended March 2 was 13,871,000 barrels, including natural gasoline blended at the refineries, and represented an increase of 696,000 barrels over the previous week, but failed by 1,126,000 barrels, or 7.5 percent, of matching the production of the comparable week a year ago. Stocks of finished and unfinished gasoline were reduced 247,000 barrels during the week to a new figure of 104,462,000 barrels, which is 6,652,000 barrels, or 6.8 percent, greater than the stocks held a year ago.

Distillate Fuel Oil Up

Distillate fuel oil production for the week was up to 5,888,000 barrels, showing an increase of 160,000 over the preceding week, and 700,000 barrels, or 13.5 percent, over the like week of 1945. Withdrawal of 250,000 barrels from distillate fuel stocks brought the current inventory to 25,148,000 barrels, which is a 1,955,000-barrel, or 7.2 percent, decline, in comparison with last year.

Residual fuel oil production of 8,634,000 barrels topped the previous week's figure by 721,000 barrels, but missed matching last year's production by 213,000 barrels. Residual stocks were reduced by 1,005,000 barrels, bringing the amount held to 38,285,000 barrels, a drop of 6,717,000 barrels, or 14.9 percent, from the amount reported March 3, 1945, and represented a new low since World War I times.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gasoil and Distillate Stocks		Residual Fuel Oil Stocks	
	Barrels Daily	Week Ended	Barrels Daily	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 8
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	47,187	11-27	72,881	1- 2
1944	4,762	9-30	4,798	12-30	240,992	1- 1	89,162	4- 1	48,162	10-28	64,744	10- 7
1945	[1]4,944	7-14	[1]5,140	8-18	227,554	10-13	99,012	3-24	45,341	11-17	56,074	1- 6
1946	4,726	3- 2	4,779	3- 2	226,699	2-23	105,233	2-16	35,199	1- 5	42,371	1- 5
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 3
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-13
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-18	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	220,258	9- 9	76,302	1- 1	30,232	4-19	49,737	3-18
1945	3,621	10- 6	3,309	10- 6	[4]211,813	8-25	70,791	10-13	26,483	3-17	38,548	5-26
1946	4,548	1- 5	4,498	1-12	218,193	1- 5	98,494	1- 5	25,148	3- 2	38,285	3- 2

TRENDS OF 1945 AND 1946

Trends in Week Ended:	Crude Oil			Gasoline		Gasoil and Distillate		Residual Fuel	
	Production Daily	Runs to Stills Daily	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,561	9,252	51,119
February 24	4,777	4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 26	4,887	4,950	222,831	15,194	89,121	4,667	29,184	9,670	38,548
June 30	4,903	4,999	220,781	15,546	86,472	4,910	32,213	9,077	40,488
July 28	4,930	4,996	218,507	16,106	86,008	4,598	36,071	9,586	42,283
August 25	4,892	4,931	[4]211,813	15,986	84,693	4,960	39,782	9,356	46,201
September 29	4,357	3,812	222,387	11,913	79,552	3,940	43,689	7,047	46,853
October 27	4,273	4,838	224,230	15,530	74,335	5,159	43,472	8,691	45,943
November 24	4,469	4,648	219,363	15,681	83,184	4,802	45,258	8,800	47,474
December 8	4,459	4,473	218,355	14,908	87,004	4,669	42,406	8,545	44,743
December 15	4,515	4,562	219,518	14,644	89,043	4,905	40,968	8,107	42,962
December 22	4,480	4,511	220,288	14,768	91,870	4,708	38,919	8,539	41,479
December 29	4,474	4,729	218,918	14,546	95,205	5,055	36,651	8,765	42,447
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,293	35,199	8,867	42,371
January 26	4,626	4,553	220,544	13,622	101,737	5,720	29,498	8,411	39,722
February 2	4,609	4,530	224,351	13,841	103,125	5,636	28,939	8,506	39,086
February 9	4,690	4,512	223,303	12,854	103,952	5,650	28,301	8,630	39,555
February 16	4,710	4,643	224,762	14,002	105,233	5,776	27,273	8,813	40,036
February 23	4,714	4,595	226,699	13,175	104,709	5,728	25,398	7,913	39,290
March 2, 1946	4,726	4,779	.....	13,871	104,462	5,888	25,148	8,634	38,285
March 3, 1945	4,765	4,775	[5]219,351	14,997	97,810	5,188	27,103	8,847	45,002
Change:									
In week	+12	+148	+1,937	+696	—247	+160	—250	+721	—1,005
In year	—39	+4	+7,348	—1,126	+6,652	+700	—1,955	—213	—6,717
In year	—0.8%	+0.1%	+3.3%	—7.5%	+6.8%	+13.5%	—7.2%	—2.4%	—14.9%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, February 24, 1945.

Gas Research Head Is Appointed by AGA

Eugene D. Milener became coordinator of general research of the American Gas Association, effective March 1, and Mahlon A. Combs was promoted from assistant secretary of the Industrial and Commercial Gas Section to secretary, succeeding Milener.

Milener will coordinate the general and technical utilization research of the association continuing as secretary of the coordinating committee on research, the domestic gas research committee and the industrial and commercial gas research committee. Coordination of gas production research continues to be directed by Edwin L. Hall.

Oklahoma Map Issued

E. C. Jacobson, Tulsa, oil field map maker and originator of the nomenclature maps used by oil scouts and producers, has completed a new oil map of Oklahoma. It is 54 by 72 inches with a scale of 4½ miles to the inch. It pictures oil areas in green, gas fields in red, sections, townships and ranges and county seats. A feature of the map is the 40-acre outlining of pools as set forth by the steering committee on oil field names of the standing committee of the Kansas-Oklahoma Division, Mid-Continent Oil and Gas Association. Approximately 433 pools are set up in this manner.

Britton and Clark Have Contract for Iowa Line

Britton and Clark Contracting Company, Fort Worth pipe line construction company, is laying 11 miles of 20-inch natural gas line near Ogden, Iowa, for the Northern Natural Gas Company.

Britton and Clark Contracting Company was organized recently by J. C. Britton, H. R. Britton and Roy Clark. Hugh Lambert, former division superintendent for War Emergency Pipelines, is general office manager of the new firm. The Brittons and Clark were formerly connected with O. C. Whitaker Construction Company.

Testing Operations Start On Pecan Island Line

Humble Oil & Refining Company's 14-inch natural gas carrier from the Pecan Island pool, Vermilion Parish, South Louisiana, to Opelousas, La., has been completed and testing operations were started last week.

At Opelousas the line ties into Interstate Natural Gas Company's new natural gas line from Baton Rouge to North Tepetate, now under construction.

Associated Contractors and Engineers, Houston pipe line construction company, was contractor on the Humble job.

Humble Awards Another Contract in Louisiana

Humble Oil & Refining Company has awarded contract to Latex Construction Company, Houston firm, for construction of a 10-mile, 4 and 6-inch natural gas line east from the North Crowley field, South Louisiana, to tie into Humble's new 14-inch gas carrier from the Pecan Island field to Opelousas, La.

Products Line

The Katy Operators Committee has awarded contract to the Latex Construction Company, Houston, for the laying of 50 miles of 6-inch products line from the Katy field, Harris and Waller counties, Upper Texas Coast, to a terminal on the Houston ship channel.

Pipe Line Necessitated by Decline in Gas Production

Federal Power Commission has announced that a hearing will be held, on a date to be set later, on the combined applications of Iroquois Gas Company and United Natural Gas Company for construction of a loop to become part of the interconnected system through which Iroquois obtains delivery from United of a part of its natural-gas requirements.

The project, to cost $530,000, was explained in the companies' applications to be necessitated by the decline of gas production in New York state due to accelerated drain occasioned by the war effort and the failure of reecnt development work to uncover any new pools of consequence.

It is planned to have Iroquois construct approximately 17.9 miles of 16-inch loop from its Little Valley By-Pass to the Pennsylvania state line at a cost of $465,000, and for United to build 2.4 miles of similar size line from the Pennsylvania border to its Maloney Farm By-Pass at a cost of $65,000.

The commission has scheduled a hearing for March 27 on applications of Arkansas Louisiana Gas Company for permanent certificates of convenience and necessity to operate transmission facilities constructed to meet wartime emergencies and to revamp its so-called "L System," originally built to serve war plants in Arkansas, for service to peacetime customers.

Six-Mile Line Planned For Crane County, Texas

Texas-New Mexico Pipe Line Company is preparing to lay 6 miles of 6-inch crude oil line from its Crance station to the "Block 31" field in eastern Crane County, West Texas.

The company will segregate the sweet crude produced in the field and it is reported that the top posting for this type of oil in West Texas, $1.25 per barrel for 40-gravity and above, will be paid. At the present time there are more than 20 operations in the field.

Kansas Gas Production Drops 7 Percent in 1945

Natural gas production in Kansas dropped 7 percent in 1945, according to the Kansas state conservation division. Production for 1945 was 124,100,219,000 cubic feet, the division reported, with ⅔ production coming from the vast Hugoton field with wells in seven southwest counties.

The counties in the Hugoton field, Kearny, Finney, Grant, Haskell, Morton, Stevens and Seward, produced 80,704,992,000 cubic feet of gas during the year. Other large producing areas were Medicine Lodge Field (Barber County), 13,655,523,000 cubic feet; Otis field (Rush and Barton counties), 6,007,608,000 cubic feet; Cunningham field (Kingman and Pratt counties), 3,020,241,000 cubic feet; Zook field (Pawnee County), 2,632,506,000 cubic feet; Belpre field (Edwards County), 2,368,835,000 cubic feet; Zenith-Peace Creek field (Reno and Harvey counties), 1,576,867,000 cubic feet; Burrton field (Reno and Harvey counties), 1,535,664,000; Chitwood field (Pratt County), 1,428,131,000 cubic feet.

The state's production was rounded out by smaller fields, with eastern Kansas areas accounting for 5,130,000,000 cubic feet.

Engineers Board Meet To Discuss Registration

The Oklahoma State Board of Registration of Professional Engineers will meet in the Petroleum Building, Oklahoma City, March 16, to discuss standardization of registration requirements. Richard V. James is chairman and other members are Ellis C. Baker, Stillwater; W. H. Stueve and Guy B. Treat, Oklahoma City; and C. V. Millikan, Tulsa.

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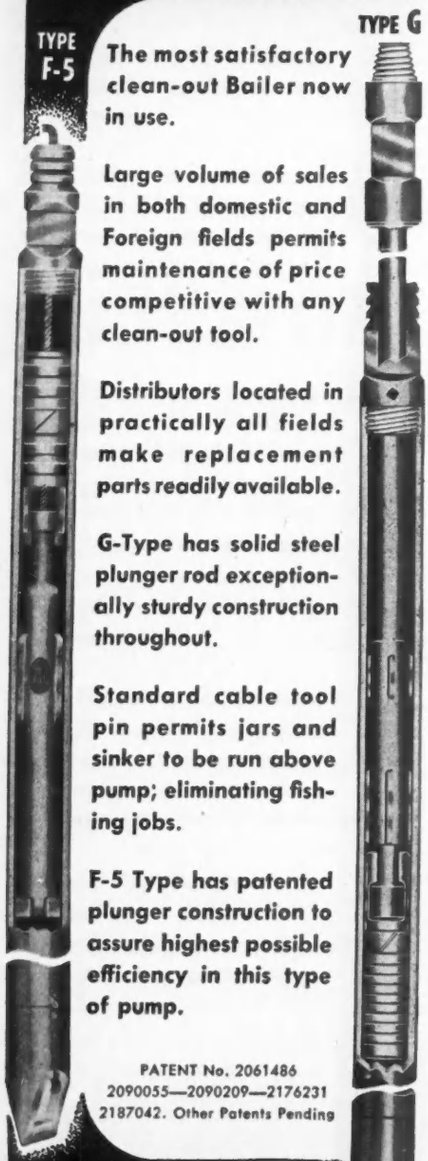

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Little Likelihood of France Nationalizing Oil

State Department officials see little likelihood that ideas of the new French government for the nationalization of major industries will extend to the field of petroleum, pointing out that France controls only a very small local production and is dependent upon imports for supplies.

While France has an interest in the Iraq Petroleum Company, the various American and British companies have a very great interest in the French market, it was said, and nationalization of the industry would mean little more than that the French government would take over the headaches of marketing and still have to deal with the same companies, but at arm's length.

The question of nationalization has been prominently discussed in official French circles but that there has been no move yet to effectuate it. French opinion is pretty well divided.

The French program follows closely the pattern of nationalization laid down by the British labor party, and contemplates socialization of industries indigenous to the country, such as coal, transportation, banking and insurance, but the whole field of industry is being explored.

Atlantic Deepening Well On Its Haiti Concession

The Atlantic Refining Company, which holds concessions totaling approximately 500,000 acres in Haiti, is deepening its previously abandoned Jurinet 1, located 50 miles northeast of Port-Au-Prince.

The Jurinet 1 was originally abandoned on August 23, 1944, at a total depth of 7005 feet, being bottomed in the Lower Oligocene. The rig then was moved to the company's Maissade 1 which was spudded September 10, 1944, and abandoned November 13, 1945, at 9010 feet. The heavy-duty rig was dismantled and moved back to the Jurinet 1 location and the test now is drilling below 7300 feet.

Resumption of Drilling In Philippines Seen

As soon as necessary equipment can be obtained, drilling for oil in the Philippines will be resumed, according to reports received by the Department of Commerce from the Far East Development Company. Encouraging indications of oil had been found before the war in northern Cebu, where drilling had reached a depth of 8330 feet. The machinery was destroyed early in 1942 to prevent its falling into Japanese hands.

French Production

The Pechelbronn field in Alsace, largest oil producing area in France, had 616 wells pumping in November, 1945, with daily production in September, 1945, estimated at 925 barrels. This compares with 857 wells pumping at the end of 1944 and a production of 1250 barrels in September, 1944.

The overall domestic production in France during September, 1945, included 7234 barrels of gasoline and 2211 barrels of gas oil.

Import Conference Finds Little Department Favor

State Department officials at the week-end were not sympathetic to industry suggestions for a conference on oil imports before action is taken toward development of new reciprocal trade agreements, but indicated that at some future time industry men might be called into give their views on how concessions on oil imports might affect domestic trade.

The department was in the midst of a correspondence with Russell B. Brown, general counsel of the Independent Petroleum Association, following its rejection of his request for a conference on the ground that such a meeting would be premature in view of the fact that the whole question of reciprocal trade has been explored but little in the light of postwar conditions.

As an alternative, officials suggested that questions with regard to an oil import conference be referred to the Committee on Trade Reciprocity, the very group which industry representatives are anxious to avoid.

At the department it was said that none of the reciprocal trade problems has yet been solved, that no list of commodities for consideration in the negotiation of new agreements has been developed and that the whole question is still pending on policy-making levels.

Joya Mair Tests Await Construction of Storage

Petroleum production in the Khaur field in the Punjab, India, and in the neighboring Dhulian field has declined considerably, according to the British press.

Until additional storage facilities are erected, more extensive tests cannot be made on the Attock Oil Company's two wells at Joya Mair, each of which on short tests indicated a daily production of 9000 barrels of heavy oil.

Colombia Refinery

Companie de Petroleo Shell de Colombia is reported planning to build a refinery with a capacity of more than 40,000 barrels daily at Gaita (Municipio de Santa Marta), Colombia.

Radio to Be Topic

The use of radio in gas distribution work will be one of the important subjects discussed at the 22nd annual distribution and motor vehicle conference held by the Distribution and Motor Vehicle Committee of the American Gas Association at the Hotel Stevens, Chilcago, April 15, 16, and 17. Current uses of radio will be discussed by gas company representatives and future possibilities of radio transmission will be revealed by The Bell Telephone Company.

☆ Oklahoma

Snowden Is Active at Cement, Caddo County

Snowden acquires new acreage in Cement pool; Cities Service testing Garvin County wildcat; Continental expands Brown pool; Atlantic to complete Rocky wildcat as gasser.

Caddo County: Reconversion of the Cement townsite of Caddo County, into an oil and gas producing area by H. W. Snowden, Inc., Dallas, was enlarged to the eastward with the purchase of a lease on W½ NW of 2-5n-9w, adjoining the townsite. Snowden acquired the lease from Ohio Oil Company, Ransey Petroleum Company and Gordon Trust. Snowden has given the townsite and Cement pool proper 25 oil and gas wells in less than a year. Six gas wells with an initial totaling 143,000,000 cubic feet were finaled within a week.

Cleveland County: South Moore pool of Cleveland County listed its 28th and 29th oil producers with Mid-Continent Oil Company's Hammond 1, in NE NE SW of 27-10n-3w, gave the pool a southward trend with 200-barrels daily from the Bartlesville sand, opposite casing perforations from 7762 to 7930 feet. J. E. Crosbie, Inc., and Warren Petroleum Corporation's Taylor 2, SE SW SW 26-10n-3w, was good for 1200 barrels on the north edge of the field. Total depth was 7910 feet with the top of the Bartlesville at 7867 feet and pipe perforated from 7785 to 7884 feet. Mid-Continent Pipe Line Company is moving the oil.

Garvin County: Sinclair Prairie Oil Company is giving the areas southwest of Antioch its first development with Henry M. Ward 1, in NW SW NW of 29-3n-2w, an east offset to the Vickers Petroleum Company and Globe Refining Company's Gibson 1. The Gibson wildcat 3 miles southwest of Empire City, C SE NE of 30-3n-2w, produced 400 barrels of 42.8 gravity oil from casing perforations from 6533 to 6539 feet opposite the Pennsylvanian sand. Cities Service Oil Company waited on cement to set to test the Pennsylvanian sand at Hoffman 1-B in SW SE NW of 21-3n-1w. The wildcat had saltwater in the Bromide zone at total depth of 5250 feet. Operators set 5½-inch pipe at 4652 feet and will test the sand from 4652 to 4705 feet.

McClain County: The Carter Oil Company has a fishing job at Thompson 1, in C NE SE of 36-8n-4w. Total depth is 10,592 feet with plugback to 10,342 feet. Tests will be made in the Viola and Hunton zones.

Garfield County: Continental Oil Company has extended north the Brown pool of southeastern Garvin County while Stephens Petroleum Company's Kieser 1 in SW SW NW of 7-20n-3w, wildcat to the east, was dry at 6710 feet. Conoco is completing its Brown 1 in C N½ NW SW of 10-20n-10e, for around 140 barrels of oil daily from the Layton sand shot from 4576 to 4600 feet, total depth. In the northern part of the county Ed Barry was believed testing Bonnett 1 in SW SW SE of 25-24n-5w, a 10-acre offset to The Atlantic Refining Company's Schmit 1, Southwest Hunter pool discovery.

Washita County: The Atlantic Refining Company was plugging back Hill 1 in NW NW NW of 25-8n-18w, wildcat near Rocky. Gas from the Pennsylvanian sand from 6160 to 6400 feet will be the objective. Total depth was 6500 feet. On a drill stem test from the sand while drilling down the wildcat showed an estimated 15,000,000 cubic feet of gas first eight minutes of a 25-minute test.

40-Acre Spacing

Forty-acre well spacing in the Coffee Creek area of north-central Oklahoma County has been granted Gulf Oil Corporation by the Oklahoma Corporation Commission.

According to the new order, which covers only the Hunton lime, wells are to be drilled in the northeast corner of each quarter-quarter section, over Sections 9, 10, 11, 14, 15, 16, 21, 22, 23, 26, 27, and 28-14n-2w, east and southeast of the Northeast Edmond field.

☆ Kansas

Butler, Rooks Counties Hold State Spotlight

Exploratory work continues briskly in Kansas; Butler and Rooks counties held the oil spotlight and Barber and Pratt counties for gas.

Butler County: Nadel & Gussman's Crowley 1, SW SW SE 11-28-5e, north of Fox-Bush field, found Mississippi lime at 2736 feet, and penetrated two feet, was making 100 barrels daily. Ed Adair's Starr 1, NE NE SW 22-25-4e, on edge Pierce pool, tested Mississippi lime 2591 to 2617½ feet, for hole full oil in three hours, and being tested. Estimates indicate it may be 400-barrel well.

Barton County: Phil-Han Oil Company's Schauf 1, SE SW NW 10-16-12w, extended Feltes Northwest pool ½ mile to southeast, for 215 barrel well in Lansing-Kansas City lime at 3109 to 3113 feet. Total depth is 3304, 14 feet in dry Arbuckle lime.

Rooks County: Bird & Boreing's Veverka 1, CSL SW SW 27-8-19w, gave

Wells Completed in the United States in Week Ended March 9, 1946

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	....	....	....	....	....	....	....	....	1	1	1	....	4	3
Arkansas	1	....	....	2	3	....	....	....	1	1	4	6	36	23
California	37	....	....	1	38	1	....	....	3	3	42	34	350	378
Colorado	....	....	....	....	....	....	....	....	....	....	....	3	17	7
Florida	....	....	....	....	....	....	....	....	1	1	1	....	5	2
Georgia	....	....	....	....	....	....	....	....	1	1	1	....	1	2
Illinois	22	....	....	9	31	1	....	....	3	3	35	42	337	323
Indiana	5	....	....	1	6	....	1	....	....	1	7	9	58	53
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Kansas	18	....	....	7	25	....	....	....	1	1	26	30	390	246
Kentucky	2	....	....	....	2	....	....	....	1	1	3	10	95	103
Louisiana	16	3	....	5	24	....	1	....	5	6	30	23	236	175
North Louisiana	7	3	....	2	12	....	....	....	1	1	13	7	118	58
South Louisiana	9	....	....	3	12	....	1	....	4	5	17	16	118	117
Michigan	....	....	....	....	....	....	....	....	....	....	....	12	123	130
Mississippi	3	....	....	1	4	....	2	1	2	5	9	1	37	66
Missouri	....	....	....	....	....	....	....	....	1	1	1	....	3	9
Montana	1	....	....	....	1	....	....	....	....	....	1	7	45	36
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	....	1
New Mexico	2	2	....	1	5	....	1	....	1	2	7	5	73	96
New York	15	....	10	....	25	....	....	....	....	....	25	26	229	144
Ohio	....	....	....	....	....	....	....	....	....	....	....	5	99	135
Oklahoma	18	1	1	11	31	....	2	....	2	4	35	64	482	426
Pennsylvania	27	....	15	....	42	....	....	....	....	....	42	45	452	485
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Texas	62	4	....	19	85	....	4	....	20	24	109	151	1,452	1,284
E.Tex.Bor.Co.'s	....	3	....	....	3	....	1	....	....	1	4	4	34	12
Rest of E. Texas	2	....	....	2	4	....	....	....	....	....	4	7	83	38
North Texas	17	....	....	10	27	....	1	....	5	6	33	42	401	300
W. Central Tex.	7	....	....	2	9	....	....	....	4	4	13	9	121	66
West Texas	11	....	....	2	13	....	....	....	....	....	13	29	291	347
Tex. Panhandle	3	....	....	....	3	....	....	....	....	....	3	10	89	109
G. Coast, Upper	10	....	....	....	10	....	1	....	6	7	17	10	143	124
G. Coast, Lower	11	....	....	....	11	....	....	....	2	2	13	23	202	186
Southwest Texas	1	1	....	3	5	....	....	....	2	2	7	12	68	90
S. Central Texas	....	....	....	....	....	....	1	....	1	2	2	5	20	12
West Virginia	....	....	....	....	....	....	....	....	....	....	....	11	78	138
Wyoming	4	....	....	1	5	....	1	....	....	1	6	4	31	31
Total U. S.	233	10	26	58	327	2	12	1	43	56	385	488	4,634	4,297

* Includes distillate wells. † Includes salt water disposal wells.

the county a new pool for 27½ barrels an hour on swab from Arbuckle lime at 3403-09 feet, when pay-penetrated oil filled up 2662 feet naturally. This wildcat discovery is a mile south of abandoned Webster pool and 1½ miles north of Barry pool. Republic Natural Gas Company's Cooper 1, SE SE SE 14-7-20w, swabbed 2½ barrels of oil for six hours after 500 gallons acid in Arbuckle lime 3498 to 3508 feet, to open new pool northwest of Webster.

Barber County: Continental Oil Company's Skinner 1, SE NE NE 33-31-15w, tested 2,200,000 feet of gas in open flow from Mississippi lime at 4697½ to 4720 feet to open new pool 4 miles west of Skinner pool.

Pratt County: Bridgeport Oil Company's Stoops 1, C SE SW 7-29-12w, rated at 5,000,000 feet of gas from Viola lime at 4446 feet, and was treated with acid. It is 5 miles from porlific Chitwood pool. This wildcat was originally drilled to 4731 feet by Shell Oil Company and abandoned, and Bridgeport took over the block and well and moved into the old hole and perforated at 4446-52 feet.

Phillips County: Helmerich & Payne, Inc., and Tide Water Associated Oil Company's Bowman 1-A, NW NW SE 3-5-20w, discovery well in Logan pool, finally was completed for potential of 201 barrels a day from Lansing lime at 3149-56 feet and 3172-76 feet. It is making a little water with the oil.

☆ Rocky Mountain Area

New Pools Are Being Tested in Three States

Wildcatters get good results; several discovery wells delay notice of completion pending final testing.

Great interest was aroused in Colorado by the strike at the old Greasewood Flats field where Colorado Unit Oil Corporation's Kirchof 1 is being deepened 10 feet before completion. The swabbing test R. S. Shannon reported showed the well good for from 300 to 500 barrels daily. Completion was delayed this week by drilling crew illness.

Central Montana has another oil field in the Cat Creek area. Schrock-McKenna-Schwartz's new well is on Rattlesnake Butte, 15 miles south of the main Cat Creek field got production from the Second Cat Creek sand at 2780 feet. Final results will not be known until the well is shot, cleaned and tested again.

In Wyoming the entire area near the southeastern corner of Yellowstone National Park is in the spotlight as the Sinclair-Wyoming Oil Company's DuBois Unit No. 1 swabbed 80 barrels of oil per day from the Embar sand at 2155 after going to total depth of 3583 where the rig burned several weeks ago. Nearest production is 50 miles away at Circle Ridge and Maverick Springs, also in Fremont County.

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☆ California

Richfield May Have Big Field in Los Angeles Area

Richfield Oil Corporation's second well in the East Los Angeles field producing nearly 1000 barrels through 18/64-inch choke, discovery looks important; Ohio's Gardena wildcat nearing critical depth; new depth record for producers established in Ventura Avenue field; two more excellent completions by Standard Oil Company of California in Cymric field.

Los Angeles County: Performance of Richfield Oil Corporation's second well in the East Los Angeles field gives rise to the feeling among field men that Richfield has discovered a major field. The Richfield well, Vail 1 in 16-2s-12w, is currently producing 995 barrels of 35.2 gravity oil through an 18/64-inch choke, with 1460 pounds flow pressure.

Union Oil Company will drill a well there on a 50-acre lease acquired from the Goodrich Rubber Company. Chanslor-Canfield Midway Oil Company's Bandini 1, 21-2s-12w, is below 9700 feet with no reported showings.

Richfield's discovery well, Union Pacific Unit 1, has been continued on production despite its high water cut, now about 64 percent, and is producing 210 barrels of 32.3-gravity oil. It will be kept on production until the operator determines source of the water. Other sands behind the pipe remain to be tested.

In the Gardena area, Ohio Oil Company's wildcat, Gardena Community Four 1, 23-3s-14w, is making good progress below 8600 feet. This well is highly regarded due to excellent results of tests in Ohio's first wildcat in the area drilled a year ago.

Dumm Bros.-Olympic Refining Company have abandoned their wildcat in 29-1s-12w, East Los Angeles, at 4988 feet with only a few gas showings.

Shell's Dominguez Estate 1, wildcat, which last month discovered oil southeast of the Dominguez field in 2-4s-13w, appears unlikely to be a commercial producer. It is producing 50 barrels of 27-gravity oil and 47 percent water. Total depth is 10,478 feet.

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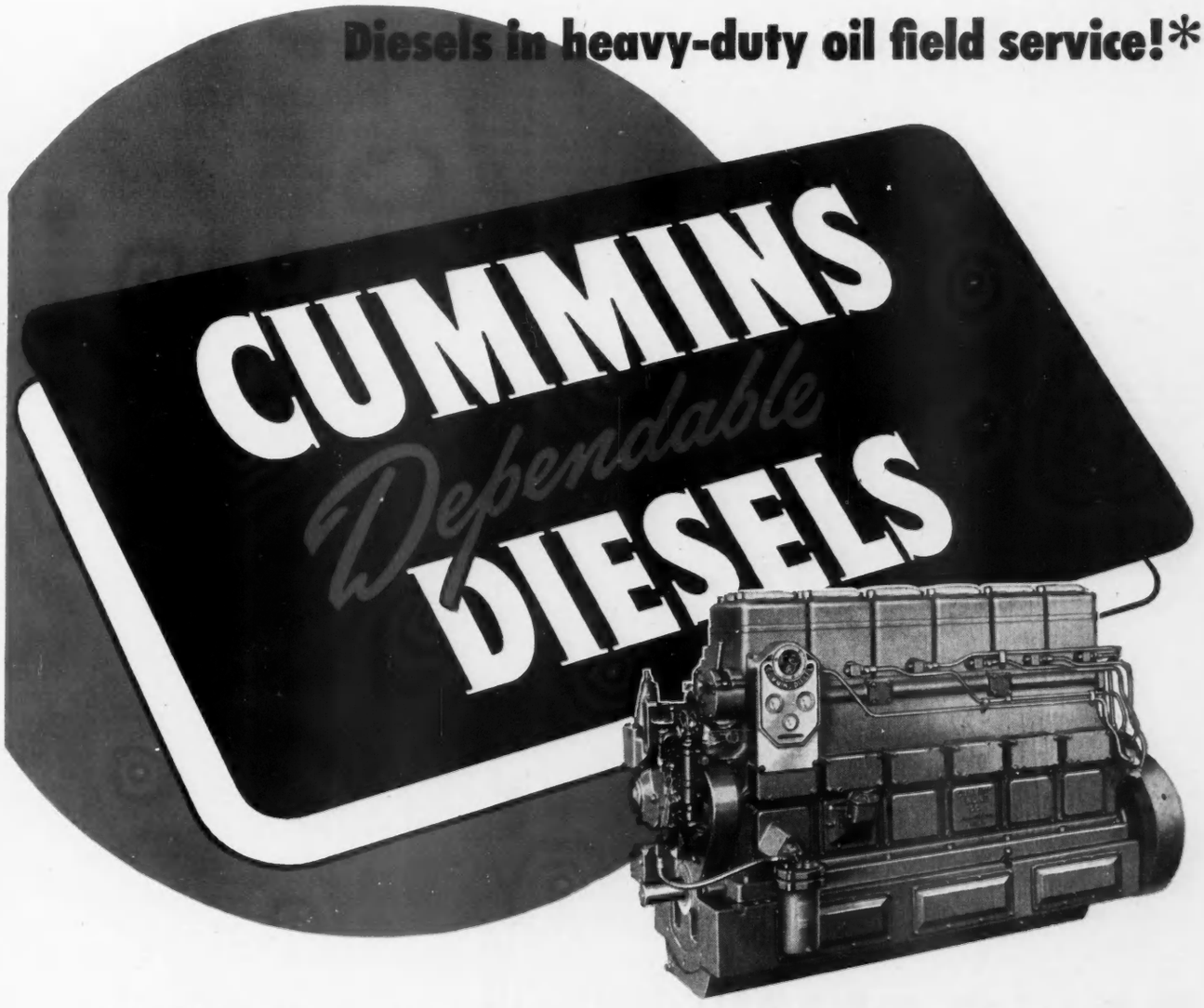

**The Facts:* No other diesel powers as many rigs in the vast Mid-Continent area as do Cummins Dependable Diesels! What better proof of proved performance? For every heavy-duty oil field application, there is a proved-on-the-job Cummins Diesel—150-200-275 hp (maximum). Ask your Cummins Dealer for the full facts and figures.

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Orange County: Silver Divide Mines Company's test for Vaqueros production in the Costa Mesa area, 23-6s-10w, is below 3565 feet. Sunset Oil Company's nearby wildcat in the West Newport area, Meyer 1 in Sect. 17, has been abandoned at 4645 feet. General Petroleum Corporation's Librown 1 in the Buena Park area, 21-3s-11w, pumped 186 barrels in 15 hours, 13 percent water, with test continuing.

Ventura County: A new depth record for producing wells in the Ventura Avenue field was established when Lloyd Corporation brought in Lloyd Corporation 18 for 1000 barrels of 33.5-gravity oil from 12,940 feet. Bennett Exploration Company has spudded a wildcat, Triunfo 24-2, in 24-1n-19w.

Monterey County: Chanslor-Canfield Midway Oil Company will drill a deep test near San Ardo in 6-23s-10e.

Yolo County: About a mile south of The Texas Company's recent gas discovery in the Dunnigan Hills area, Standard Oil Company of California will drill Laugenour 1 in 15-11n-1w, which will also be a test for gas. The Texas' Hermle 1 in Sect. 22, came in recently for 3,030,000 cubic feet from 4022 feet.

Kern County: Standard of California's Weston 71, 27-29s-21e, and Weston 82, also in Sect. 27, both producing from the Oceanic sand, made between 2500 and 3000 barrels on formation tests before being placed on production. Locations for 24 shallow wells have been staked in the Kern Front field by Westates Petroleum Corporation. Sixteen of these will be drilled on contract at once. The program is expected to involve 38 wells.

The deep test of four companies—Seaboard, Wilshire, Universal Consolidated and Mohawk—in the Buena Vista Lake area B.V.A. 73-14, was below 11,190 feet. Objective Stevens is expected at 11,400 feet.

British American Oil Producing Company and Capital Company have completed Portals 45-3, most southerly producer in the Race Track Hill field, for 495 barrels of 41-gravity oil and 225,000 cubic feet of gas. Total depth is 4860 feet.

☆ North Louisiana

Caddo Wildcat Squeezing Preparatory for Testing

Caddo Parish wildcat, Longwood area, squeezing preparatory to testing; Benton outpost preparing to complete; Zwolle deep test continues drilling.

Caddo Parish: Union Producing Company's Noel Estate A-1, 11-19-16w, Longwood area, became a squeeze job for testing in the Travis Peak. Earlier it had been reported with indications of a discovery in the Pettit. With perforations from 8045 to 8060 feet, drill stem test recovered gas-cut mud and salt water. The cement retainer was set at 5766 feet preparatory to the squeeze job. Total depth was reported at 9239 feet.

Bossier Parish: G. H. Vaughn's Herrick-Johnson 1, SW SW 36-21-13w, Benton area, was running 7-inch string at 8190 feet, with bottom reported at 8193 feet for test. Completion of this gas distillate outpost is expected soon. Barnsdall Oil Company's Crystal 1, wildcat, SE SW 28-12-11w, was going back into the hole at 8095 feet. Barnsdall's Carter-Burton 1, NW NW 26-23-13w, near Plain Dealing, was drilling at 8742 feet.

Sabine Parish: Union Producing Company's Louisiana Long Leaf Lumber Company's 1, 29-8-11w, deep test in the Zwolle area, was drilling at 4197 feet. Carter Oil Company was rigging up at Louisiana Long Leaf Lumber Company 1, NE SW 27-7-10w, with plans to go to 9000 feet, it was reported.

Lincoln Parish: California Company's Ida Rogers Richards 1, 11-18-2w, was reported drilling in sand and shale at 8620 feet. Same operator's W. A. Colvin 1, 1-19-4w, was drilling in shale at 5120 feet.

Franklin Parish: F. B. King Company's Baskin Estate 1, 35-16-7e, a wildcat, was abandoned at total depth of 4005 feet.

☆ South Louisiana

Production Is Confirmed In St. James Parish Test

Atchafalaya test gets gas production from new sand; Singer area deep test squeezed after unsatisfactory production test; preparations for production tests underway on Mud Lake test; production confirmed in College Point area of St. James Parish; Humble swabs in second well in New Iberia area.

St. Mary Parish: The Texas Company's State-340-Atchafalaya Bay 4, in sec. 1 of Atchafalaya Bay, Belle Island area, has gas production from a new sand, a potential of 2 million cubic feet daily being produced through a 10/64-inch choke from 96 perforations at 9790-9806 feet. Shut-in tubing pressure was 3600 pounds while flowing tubing pressure was 3525 pounds. The sand was topped at 9790 feet and gas shows were made in sands at 9790-9808 feet, 9050-92 feet, 9568-74 feet and 9612-25 feet. Total depth was 10,653 feet with 7-inch casing set at 9888 feet.

Beauregard Parish: Sun Oil Company's Rice Land & Lumber Company 1, 32-4s-11w, wildcat in the Singer area has been squeezed after production tests through 40 perforations at 12,285-95 feet showed salt water. A test through perforations at 12,435-45 feet showed only a slight gas flow, and a second test at 12,-315-25 feet gave a flow of fresh and salt water. Total depth is at 12,662 feet with 7-inch pipe cemented on bottom.

Cameron Parish: Magnolia Petroleum Company's Lutcher 1-B, 33-14s-11w, deep test in the Mud Lake area, 800 feet north of the Lutcher 1-A field discovery well, will make a series of tests after cementing 5½-inch production string set on bottom at 10,824 feet. An electric log was run at 9178 feet. Show gas in sands at 9325-50 feet was reported.

St. James Parish: Humble Oil & Refining Company's Society of Catholic Religious Education & Literature 1, 25-12s-4e, College Point discovery area, was completed for 129.6 barrels of 54-gravity condensate daily to confirm production in the area discovered by the Mrs. Rosa Roussell Keeler et al 1, 31-12s-4e, which was completed in mid-1944 for 8.56 barrels hourly through a ¼-inch

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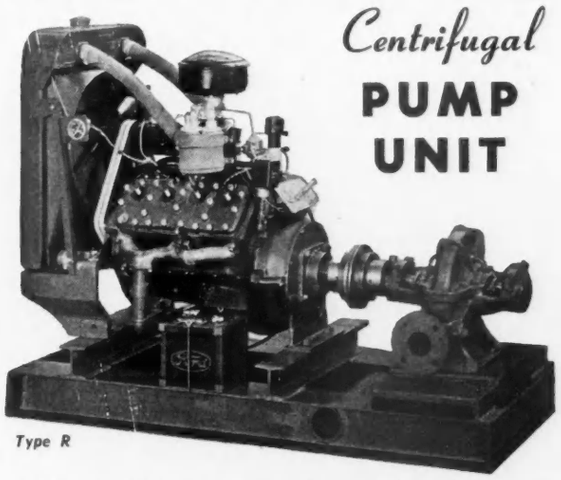

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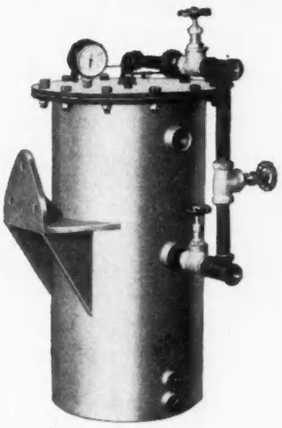

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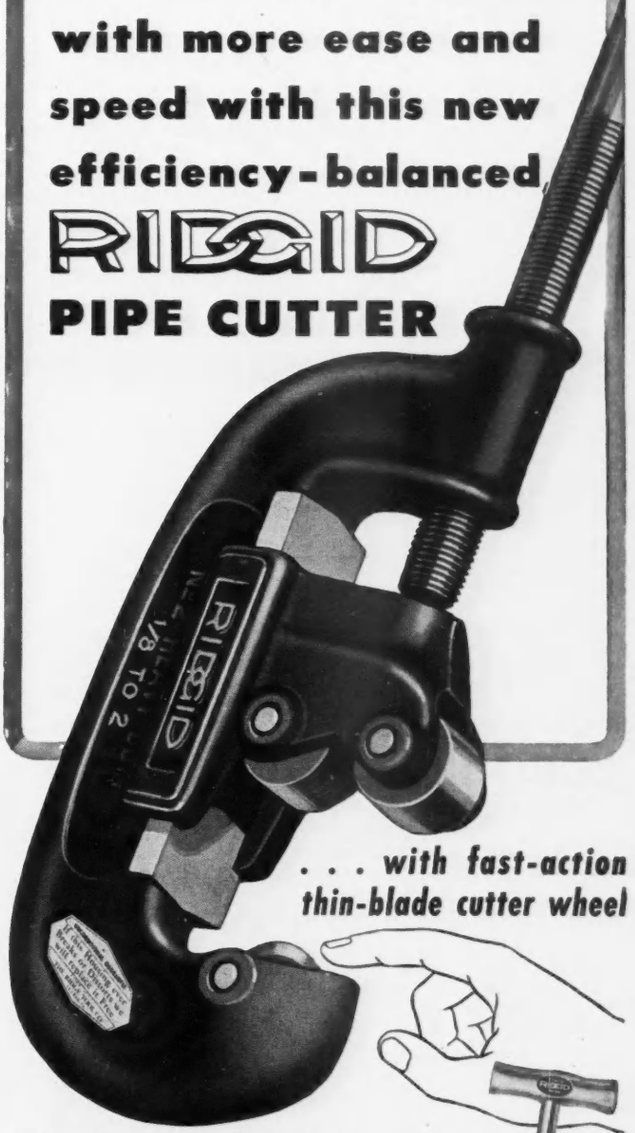

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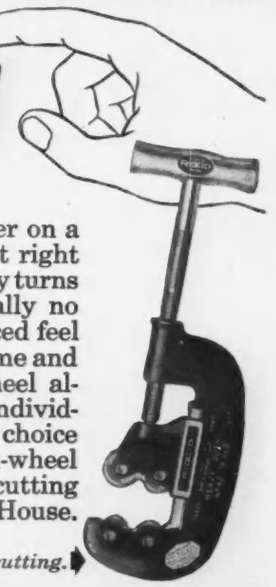

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choke from 10,758-65 feet. The confirmation well produces through a ¼-inch choke from 320 perforations at 10,719-42 feet and has a gas-oil ratio of 33,-346/1. Flowing pressure in the tubing was gauged at 3300 pounds. Total depth is 10,765 feet with 7-inch casing set to 10,455 feet and 5-inch liner set to bottom.

Iberia Parish: Humble Oil & Refining Company's Mayo Romero 2, 49-12s-7e, second test in the New Iberia field, was swabbing in from 36 perforations at 9660-65 feet after setting 7-inch pipe at 9735 feet. On a previous drill-stem test with a packer set at 9657 feet, 270 feet of oil and a little mud with brackish water was recovered. Total depth was 9844 feet. The No. 1 well was completed as a gas-condensate producer from 47 perforations at 11,010-15 feet with a tubing pressure at 3700 pounds.

Jefferson Davis Parish: Barnsdall Oil Company's M. M. Stafford Unit 1, deep test at West Tepetate, 36-7s-3w, flowed 43.5 barrels of 47.5-gravity condensate on a 24-hour test through a 14/64-inch choke from perforations at 8768-80 feet with a gas-oil ratio of 114,000/1. This zone was then squeezed off with 175 sacks of cement and the production string was reperforated at 7961-63 feet with 13 shots and squeezed.

Acadia Parish: Union Sulphur Company's Brunner-Bonnin 1, 60-8s-2e, Chickasway test in the Branch field area, was nearing the 12,000-foot mark, with hard shales encountered at 11,823 feet. Protection pipe of 7⅝-inch was set at 10,913 feet.

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☆ Mississippi

Gwinville Is Extended By Gulf's Vinnie Walker

Gwinville extension in Jeff Davis County successfully completed; Warren County test shows nothing new; attempted Cranfield extension in Franklin County fails.

Jeff Davis County: Gulf Refining Company's Vinnie Walker 1, NWc NE SW 34-9n-19w, has extended the Gwinville field a mile to the Southwest. The Eutaw section was perforated with 96 shots at 8074-90 feet and on its initial production test the well flowed 4,125,000 cubic feet of gas and 31 barrels of 50.2-gravity condensate per day with ¼-inch tubing choke. Tubing pressure was 2975 pounds and gas-oil ratio 180,000/1. Gulf's M. W. Berry 1, NWc SE NW 13-9n-19w, in Gwinville, is drilling below 8763 feet after encountering good gas-condensate shows in the Eutaw section below 7887 feet.

Warren County: Magnolia Petroleum Company's Ruth Pidgeon 2, SWc SE SE 27-17n-4e, north of Vicksburg, which had good shows of high-pressure gas, is drilling below 2437 feet in shale with no new shows. Drill-stem test was made at 2040-48 feet with fair show of dry gas. Cores taken at 2048-53 feet recovered shale and sand stringers with shows of black oil.

Lincoln County: Danciger Oil & Refining Company's Central Lumber Co. 1, SWc 22-8n-5e, is drilling below 10,061 feet. Cores taken at 9880-91 feet recovered sandy shale. Sun Oil Company's Case Heirs 1, SW SE 8-7n-7e in the Brookhaven field, is installing pump preparatory to completion after successful swab job. Casing was perforated at 10,273-90 feet opposite the Basal Tuscaloosa sand section and after swabbing flowed at the rate of 192 barrels of 30.7-gravity oil per day. Roeser & Pendleton's School Land 1, NW NW 16-7n-7e in Brookhaven, drilling below 4213 feet, seeks the Tuscaloosa productive section.

Madison County: Leonard Jones & Associates' J. R. Anderson 3, SW SW NW 1-8n-1w in the Flora field, was swabbed after entering gas rock section at 4355 feet and fluid level stood at about 2000 feet. Considerable trouble with salt water has always been experienced in this field and it remains to be seen whether the Anderson will develop into a good producer.

Copiah County: The Carter Oil Company's Reynolds C-133, NWc 12-10n-5e, deep wildcat is running core tests below 10,083 feet. Cores taken in the Marine Tuscaloosa sand section below 10,000 feet developed salt water with no shows.

Lamar County: Humble Oil & Refining Company's Lamar County Board of Supervisors 2, SE NW 16-1n-16w in the Baxterville field, is working at the 8990-foot level in the Massive sand zone after drill-stem test of the section recovered only mud and salt water. Previously the well has tested fair quantity of oil-cut mud and salt water in the Massive at 8889-8900 feet. Gulf's J. M. Andrews 3, SWc 6-1n-16w, is drilling below 6900 feet with no shows.

Franklin County: The California Company's Homochitto Lumber Co. 1, 27-7n-1e, has been finally abandoned at a total depth of 10,398 feet. The Tuscaloosa was perforated at 10,314-345 feet

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Safety Valve

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After surface connections are repaired, the FB Safety Valve automatically re-opens when pressures across it are equal. In wells where injection pressures are not available to equalize across the valve, an OTIS Equalizing Sub can be made up between the locking mandrel and valve mechanism. This provides a means of equalizing pressures through the use of Equalizing Prongs run on a wire line.

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and swabbed to produce fair shows of oil. Later the section was acidized with 1500 gallons but the driller was unable to develop shows in any commercial quantities. California's Homochitto Lumber Co. 2 in 29-7n-1e, is drilling below 3400 feet in a second attempt to make a producer for the Cranfield extension.

Jasper County: Mid-States Oil Corporation's Herrington 2, NEc NW NW 35-1n-12e in the West Heidelberg field, is drilling below 6000 feet in exploration of levels below present production. In two drill-stem tests of the Eutaw section between 5098 feet and 5160 feet oil cut with mud was recovered. Tide Water-Gulf Refining Company's Simmons-Morrison 1, NEc NW SW 30-1n-13e in East Heidelberg field, has been completed from the Eutaw with an average daily production of 24 barrels of oil.

☆ Florida

Core Tests of Oil Shows Being Run in State Well

Monroe County: O. D. Robinson's State Well 1, NEc NW 29-59s-40e, promising deep wildcat, is running core tests below 10,356 feet in effort to determine extent of oil shows developed earlier. Cores taken at 10,329-354 feet recovered dense lime with oil spots. Cores taken of the section immediately above also had shows of heavy oil. Gulf Refining Company's State 1, SWc 2-67s-29e, is drilling at 4384 feet.

Liberty County: The Pure Oil Company's Neal Lumber Company 1, NWc 33-2s-8w, wildcat, has been abandoned at a total depth of 4506 feet after running electrical log. No shows were reported at any point along the hole.

Hillborough County: Humble Oil & Refining Company's T. S. Jameson 1, NE NE 7-31s-22e, one of the most important wildcats now being drilled in the state, is drilling below 2549 feet after running 20-inch casing to 755 feet. It is reported that surveys made last year indicated this section was one of the most favorable in the state.

Hernando County: Ohio Oil Company's Hernasco Corporation 1, NWc 19-23s-18e, is drilling below 4100 feet after topping Cretaceous at 3354 feet. No shows have been reported.

Gilchrist County: Sun Oil Company's Alton Adams 1, SWc 15-9s-15e, is drilling below 1380 feet with no shows reported.

Collier County: Humble Oil & Refining Company's Gulf Coast Realty 6, SW NE 19-48s-30e in the Sunniland field, is running core tests below 10,116 feet after drill-stem test at 9801-59 feet rerovered only mud and water.

Alabama

Winston County: Glen D. Rose Oil & Gas Company's First National Bank of Birmingham 3, SWc SE 7-12s-8w, is drilling below 461 feet in a shallow test. No shows are indicated.

Walker County: J. H. Deason's DeBardeleban 1, SE NW 6-14s-5w, wildcat, is bottomed and shut down waiting orders at 1925 feet with no shows reported. Glen D. Rose Oil & Gas Company's First National Bank of Birmingham 2, NW SE 30-12s-7w, remains bottomed at 1637 feet in fishing job.

Georgia

Montgomery County: James E. Weatherford's H. Wilkes 1, located west of Higgston, is drilling below 1013 feet with no shows reported.

Crisp County: Kerr-McGee Oil Industries' Cecil Pate 1, SWc Lot 144, Land Dist. 13, has been abandoned at a total depth of 5008 feet with no shows reported at any point along the hole.

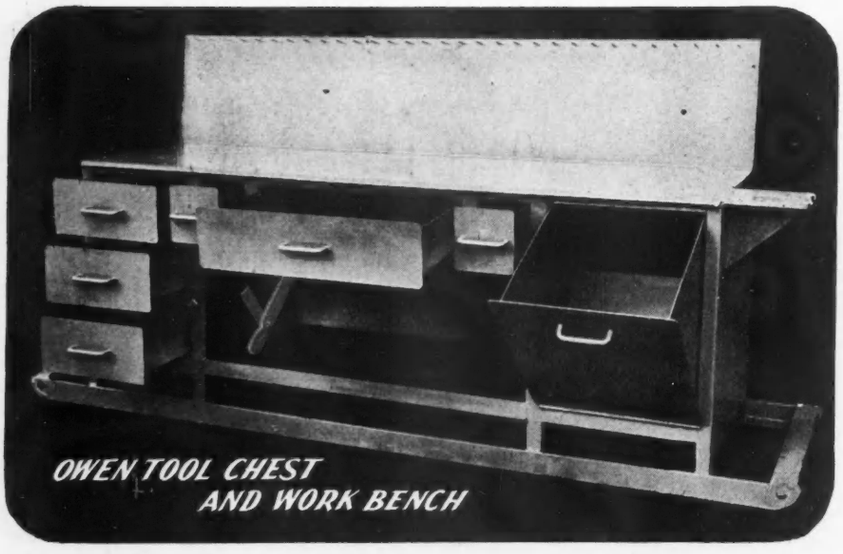
☆ Upper Texas Coast

Production Seen Likely In Colorado Wildcat

New gas sand probable southwest of Mercy field; oil shows reported in North Dayton flank test; Humble prepares another production try in Mayes field area wildcat; production likely in Colorado County wildcat; Midfields confirmation well prepares for production test.

San Jacinto County: Fred M. Manning, Incorporated's Central Coke & Coal Company 1, 2½ miles southwest of the Mercy field and 15 miles southwest of Sheppard, in the J. Ferguson Survey A-119, is flowing gas and condensate to indicate a new gas and condensate producing area. Production comes from 193 perforations at 8310-45 feet through 11/64-inch choke with 650 pounds pressure of the tubing and 350 pounds pressure on the casing. The Wilcox sand was topped at 8295 feet and previous drill-stem tests at 8367-87 feet showed 5 percent oil, 5 percent mud and 90 percent salt water. Total depth is at 11,001 feet with 7-inch casing set at 8550 feet.

Liberty County: Roxie Wright's Mrs.



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Width of bench	30"
Height, front	32"
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DRAWER DIMENSIONS:

	Width	Length	Depth
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Large center drawer	30"	24"	6"
Two, each side of center drawer	6"	24"	6"
Rag bin	20"	24"	24"

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HOUSTON, TEXAS

Martha Davis 1, wildcat test in the northwest flank of the North Dayton field, on a 108-acre tract in the H&TC Survey A-263, Sec. 211, was preparing to test after reaching a depth of 5180 feet in a side-tracked hole. Sands at 5120-35 feet showed oil and a 7-inch production string was cemented to bottom. The original hole was plugged back to 3150 feet after twisting off drill stem.

Chambers County: Humble Oil & Refining Company's Lula Wallis et al 1, wildcat located 6500 feet southeast of production in the Mayes field area, on a 200-acre tract in the Samuel Mather Survey A-192, is ready for a production test. The last try was through 24 perforations at 9194-98 feet where the well flowed 200 barrels of 36.6-gravity oil in 16 hours through a 3/16-inch choke with 3000 pounds tubing pressure. The gas-oil ratio was 6925/1. The well was then squeezed through the 5½-inch pipe set at 9995 feet and reperforated.

Colorado County: Texas Gulf Production Company's Earline Landig 1, wildcat 5750 feet north east of Cities Service Schobel Columbus 1, discovery well, in the James Cummins Survey A-13, showed some gas and wash water on a test through 18 perforations at 8736-42 feet. Cores were taken on sands corresponding to sands in the discovery well to the total depth of 8864 feet, with 5½-inch pipe set at 8861 feet. Sands with a slight show of oil were topped at 7312 feet, and on a 15-minute drill-stem test at 7875-95 feet, 1380 feet of pipe line oil and 180 feet of salt water was received using a ¼-inch choke.

Matagorda County: Sun Oil Company's R. B. Trull 1, confirmation test in the Midfields discovery area, 2087 feet northeast of the Strnadel 2 discovery well in the I&GN Survey, was last reported making preparations for a production test after squeezing cement through 7 perforations at 9136-38 feet. Total depth of the hole is 9202 feet with 5½-inch pipe set on bottom. Sands were topped almost at the same level as those of the discovery well where 9065 feet was the upper limit, and the well was perforated at 9134-36 feet.

Wharton County: Union Oil Company of California's Cora Riggs 1, in the John Huff League, Abstract 31, 500 feet southeast of the Hawes Estate 2 dry hole, has confirmed production on the North Flank of the Boling Dome. The well was completed for 180 barrels of 26.7-gravity oil daily through a 5/32-inch choke from perforations at 4884-4904 feet. Total depth was 5120 feet with 5½-inch casing set at 4949 feet. Tubing developed a pressure of 600 pounds while testing.

☆ Lower Texas-Coast

Bee County Wildcat Is Completed in Luling Sand

Bee County wildcat completed in Luling sand after extensive tests; new pay zone opened in Violet field; South Cabeza Creek production extended 6000 feet northeast.

Bee County: Mills Bennett's Martha Berger 1, wildcat test 2 miles southwest of Tuleta was completed for 8 barrels of condensate per hour on a ¼-inch choke along with an estimated 6 million cubic

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feet of gas per day from perforations at 8082-8140 feet, 3800 pounds working pressure. Perforations took in all the Luling sand section while previous tests lower in the hole in the Wilcox sands flowed salt water. The Slick-sand logged 40 feet of pay and on open hole tests at 7896-7905 feet the well showed indications of condensate.

Nueces County: Phillips Petroleum Company's Wm. Heuermann 2, second test in the Violet field, ½ mile northeast of the Heuermann 1 discovery in the Charles Land Survey, A-854, Sec. 412, was gauged for 11½ barrels of condensate per hour and an estimated 2½ million cubic feet of gas per day through a 3/16-inch choke with 2325 pounds working pressure from perforations at 6939-42 feet to open a new pay zone for the field. The original hole drilled to 8118 feet was sidetracked when drill pipe became stuck. The new hole has total depth of 7424 feet. Tests made at 6556-58 feet, 6558-61 feet, 7271-74 feet and 7327-29 feet all showed salt water.

Goliad County: Jay Simmon's Mary Poehler 1, wildcat 6000 feet northeast of Contiental's Bethke 1 extended the South Cabeza Creek field when it was perforated at 8324-25 feet for completion in the regular field sand. The pay sand was topped at 8279 feet and tested condensate on a drill-stem test at 8286-89 feet and 8301-05 feet. Oil saturation was topped at 8301 feet and a 14-minute drill-stem test at 8317-23 feet recovered 3000 feet of 27-gravity oil. At 8325-28 feet, 300 feet of oil was recovered on a drill-stem test after the packer had slipped.

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☆ South Central Texas

Important Wildcat Tests Finaled in Gonzales Area

Quintana and Amerada bring two important wildcats to final testing stage for promise of a new field in Gonzales County; new shallow discovery well makes good pumper in Sharp area; Humble drills ahead after testing 1 percent oil in Tanglewood wildcat.

Gonzales County: Two important wildcats are nearing the testing stage with good possibilities of opening up new production.

Quintana Petroleum Company's Anna Spahn 1, wildcat 4 miles northwest of Gonzales on a 70-acre lease in the N½ of Block 17, Range 5, recovered little oil on a drill-stem test made in the top of the Cotton Valley formation at 10,495-505 feet after a 5½-inch liner was set to bottom at 10,845 feet. The formation at the perforated zone was extremely tight, and the hole was plugged back for further testing. A good oil recovery was made on an open hole drill-stem test in the Glenrose formation prior to setting pipe, when 600 feet of oil and 400 feet of oil-cut mud were recovered.

On Amerada Petroleum Company's Henderson et al 1, wildcat 5 miles southeast of Waelder, pipe was set to the total depth of 8788 feet in the Edwards lime after drill-stem tests at that depth flowed oil. The Austin chalk was topped at 8303 feet.

Milam County: R. L. Holcombe et al's J. L. Byrd 2, shallow discovery 1 mile northeast of Sharp, 468 feet northeast of the Byrd 1 dry hole in the J. J. Acosta Grant, was completed for 55 barrels of oil per day on the pump. The Austin chalk was topped at 1210 feet and extended to 1384 feet, total depth, and the well has 5½-inch pipe set at 1220 feet.

Lee County: Humble Oil & Refining Company's George Vick 1, wildcat in the Tanglewood area, made a drill-stem test at 7109-32 feet recovering only mud and salt water, and was last reported drilling below 7900 feet in shale and lime. Previous test at 6060-75 feet through 60 perforations using a 3/16-inch choke produced 100 barrels of fluid which was 1 percent oil with a tubing pressure of 1725 pounds.

Stripper Fields Added

Stripper-well and high-cost subsidies were extended to 13 crude oil pools in six states, effective February 1 by OPA as follows:

Arkansas: Lewisville pool, 5 cents per barrel.

Illinois: Sailor Springs East, 20 cents.

Kansas: Calussen, 35 cents, Potwin, 25 cents; Rickard, 20 cents.

Louisiana: Bay St. Elaine, 2 cents.

Michigan: Beaverton South, 20 cents.

Texas: Akard, 5 cents; Heiner, 20 cents; Hoover, 35 cents; Pierce Junction, 14 cents; Refugio (Old), 2 cents; Simpson, 35 cents.

OPA also authorized an increase of 10 cents per barrel in the ceiling price of condensate from the Rodessa field in Cass and Marion counties, Texas, and Caddo Parish, Louisiana, setting the new price at $1.30 per barrels, effective March 1.

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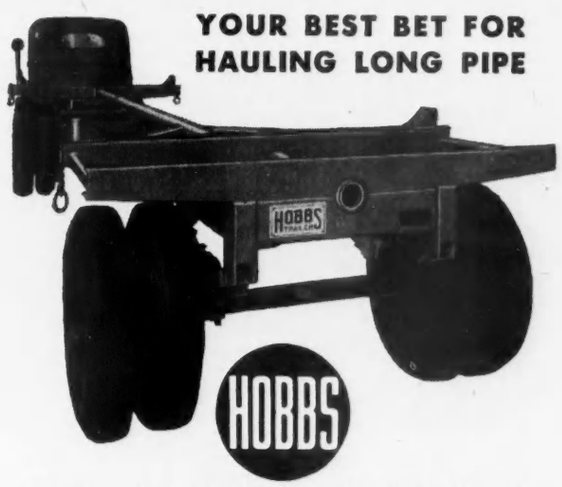

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☆Central West Texas

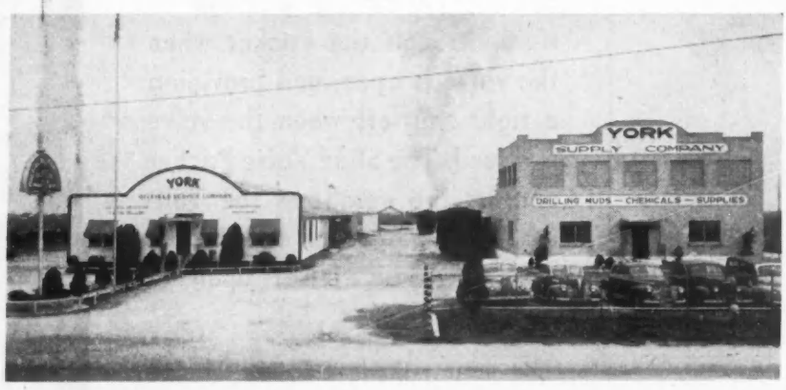
Coleman County Wildcat Near Silver Valley Flows

Coleman County wildcat flows oil on preliminary test; Palo Pinto County Ellenburger strike makes pumper.

Coleman County: Fulwiler and Hughes Drilling Company's Templeton 1, northwest corner of H.T.&B Ry. 8, Block 1, near Silver Valley, set pipe on top of Strawn sand pay at 3457 feet after registering a favorable drill-stem test at 3487 feet. The 30-foot zone yielded gas to the surface within 10 minutes, then flowed oil.

Palo Pinto County: Ashland Oil & Refining Company's Lee 1-A, T.E.&L. Co. Section 1744 and 1¼ miles southeast of shallow gas, increased its output from 26 to 75 barrels daily, with considerable water, after using 500 gallons of acid in Ellenburger at 5035-46 feet.

Shackelford County: Phillips Petroleum Company's Hickman-Pan 1, Ellenburger discovery 1½ miles west of Sedwick, was flowing 3 barrels of oil hourly through 10/64-inch choke while awaiting official test. This production is from dolomite at 4210-20 feet. Allied Oil Company's Sanders 1, discovery 4 miles northeast of Albany, was setting pumping unit after showing for a commercial producer at 4533-40 feet in Ellenburger, topped at 4511 feet.



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☆North Texas

Ellenburger Discovery For Wilbarger County

Wilbarger County lists an Ellenburger discovery in Waggoner pasture; Archer County wildcat will set pipe to test Bend saturation.

Wilbarger County: W. T. Waggoner estate and Paradise Oil Company's Waggoner 1-QQ, C E½ SE SE H&TC Ry. 39, Block 2, and 2½ miles southwest of the Rock Crossing field flowed 63 barrels of 40-gravity oil with gas-oil ratio of 600/1, through ⅜-inch choke on 3-hour gauge. The production is from perforations at 4502-16 feet in Ellenburger topped at 4442 feet and the zone was treated with 1000 gallons of acid. Possible production was indicated in the Bend, topped at 4084 feet. This discovery is considerably higher than a 5056-foot Ellenburger failure situated more than a mile to the southeast, and the interval between the Bend and Ellenburger thinned 218 feet.

Archer County: Grace and Grace's Edwards 1, George Bruner Survey and 1½ miles northwest of Scotland, was running pipe at 5744 feet to plug back and perforate opposite favorable oil showing at 5490-99 feet in Bend topped at 5215 feet. It correlates 80 feet high to a 5340-foot failure ⅝ mile northwest. E. B. Clark et al's McGregor 1, NW SE Section 7, H. H. Duff Survey and 1¼ miles southwest of an isolated discovery in the Vogtsberger area was due to run drill-stem test on conglomerate oil showing at 5450-58 feet. However, it is structurally low.

Cooke County: Standard Oil Company of Texas' Beasley 2, south sector of the Sivels Bend field, was rated at 171 barrels of 41.7-gravity oil, with gas-oil ratio of 450/1, on potential flow through ¼-inch from perforations at 8905-40 feet in Ellenburger, topped at 8640 feet and drilled to water at 9164 feet. The zone was treated with 12,000 gallons of acid to attain steady flow. Shutin bottom-hole pressure at 8910 feet was calculated at 4336 pounds. This new pay discovery gives the area 5 commercial zones, and establishes a new producing depth record for the district. Development of the Ellenburger will be on a conservative basis as long as equally productive wells are attainable in the shallower Strawn series.

Grayson County: Denver Producing & Refining Company's Jewell 1, deepened Sadler pool Strawn discovery, was drilling white lime at 9180 feet in Ellenburger, topped at 8818 feet. No shows have been recorded in this zone, but adequate oil saturation was passed up in the Oil Creek sand to warrant running a liner for completion. Standard Oil Company of Texas' Mitchell 1, projected Ellenburger test near Sherman was drilling shale and sand at 6290 feet.

Young County: L. T. Burns et al's Groves 1, east offset to the North Crain pool discovery, missed the 5048-64-foot Mississippian pay and was abandoned at 5430 feet. The 2 Crain areas are erratic in performance, and failures may exceed the total producers.

Clay County: L. T. Burns et al's Ford 1, ⅜ mile northwest of the Heard pool discovery in Ellenburger at 6468-93 feet, was drilling shale at 6545 feet, and more than 100 feet low. This outpost entered the Bend at 5751 feet, or 46 feet low.

☆ West Texas

Block 31 Field Ranks High in Drilling Volume

Ector County wildcat correlates high due to short section of Devonian; first Pre-Permian test in Yoakum County has nominal oil show in Pennsylvanian; Block 31 field ranks third in volume of drilling.

Wildcat: Phillips Petroleum Company's Eidson Unit 1, ¾ mile west of the north end of the Penwell field, Ector County, was drilling at 7495 feet in Silurian, topped at 7380 feet. This marker correlates 498 feet high to a recent Ellenburger failure situated 2¼ miles to the southwest, and the structural relief is largely due to thinning of the Devonian. Eidson Unit 1 passed up probable oil production in the 4500-foot Florietta.

Gaines County: Amerada's Jones 1-C, ¾ mile southeast of its Jones Ranch field discovery, was drilling at 10,989 feet with the Devonian due within the next 300 feet. The company's Jones 1-B, ½ mile west of the discovery, was drilling hard chert at 10,602 feet, averaging 8 feet of hole daily. The hard section between 10,000 and 11,000 feet requires about one third of the total drilling time to penetrate.

Yoakum County: Drilling & Exploration Company, Inc.'s Davis 1-D, 6½ miles north by east of the Jones Ranch deep area, failed to complete drill-stem test at 9201 feet. Nominal oil shows were logged in the Pennsylvanian, topped at 9125 feet, or about 200 feet high.

Ector County: Phillips Petroleum Company's T.P. Land Trust 1-E-a, near C NW NW T&P Ry. 39, Block 45, T-1-S, and 1¾ miles south of the 10,800-foot Ellenburger producing area opened recently to the southeast of the TXL field, was drilling dry lime 10,070 feet in the Silurian, topped at 9705 feet. This semi-wildcat correlates 490 feet low to the deep discovery.

Development of the TXL field and outposts currently involves 27 active tests, with 3 additional wells in process of completion. The peak volume of activity has been reached. The Devonian area offers prospects of extensions to the northwest and southeast, while the Ellenburger is likely to expand westward and to the northwest. The deep Ellenburger area to the southeast of the original field involves a major fault, and the extent of production is speculative.

Stanolind's Williamson 1, Ellenburger failure for the North Goldsmith field, swabbed water when plugged back to 8586 feet in the Silurian, topped at 8555 feet. Test will be made in the Devonian, which was entered at 8045 feet with nominal shows of oil and gas.

Stanolind's Kayser Unit 1, 1¼ miles southwest of the Foster field, was drilling lime and shale at 10,760 feet.

Crane County: The Atlantic Refining Company's University 1-L-31, mile north of its dually-completed discovery in the Block 31 field, was flowing 15 to 20 barrels of oil hourly, with gas-oil ratio of 1000/1, from perforations at 8820-8950 feet in Devonian, topped at 8160 feet, or 258 feet low. It is due to be completed without perforating opposite possible pays in the upper section. A test of perforations at 9055-95 feet yielded water, and the zone was cemented off. Atlantic's University 2-D-31, ⅔ mile

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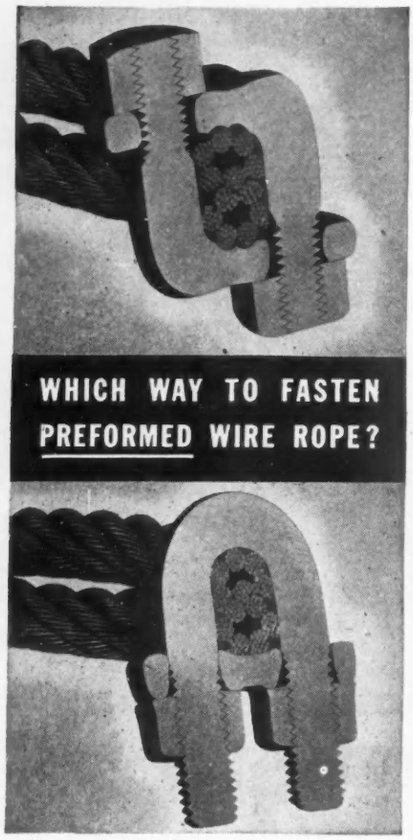

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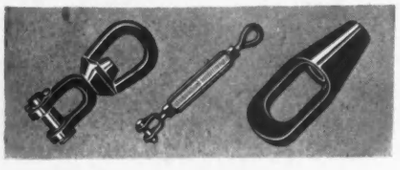

northwest of the discovery and 332 feet low on the Devonian, topped at 8230 feet, was drilling dry lime and chert at 8770 feet. Numerous drill-stem tests failed to indicate commercial production. The company has a total of 19 operations, including a workover job on an old failure, while Phillips Petroleum Company and Champlin Refining Company account for 3 additional drilling tests.

Andrews County: Humble's Parker 2, ½ mile east of Simpson sand production in the Martin field, was drilling out cement to perforate after landing 5½-inch on bottom at 8880 feet in Ellenburger, topped at 8836 feet. This new pay discovery made prolific flow of 42-gravity oil through tester at 8860 feet, but the oil and gas has been pronounced sour due to high sulphur content. Ellenburger production is normally classed as a sweet crude.

Skelly Oil Company's University 1-Z, 2¼ miles south by west of the Martin field's Simpson pay discovery, and same distance northeast of the Three Bar field's Devonian discovery, was drilling at 7160 feet, having tested small amount of oil and gas in the Basal Clear Fork at 6850-6943 feet.

Winkler County: Texas Pacific Coal & Oil Company's Brown-Altman 1, Lease 4, situated between the Emperor Deep and Weiner fields, confirmed earlier indications of opening a new Holt (Glorietta) lime area in swabbing 8 barrels hourly, averaging 2 percent bs&w, after using 500 gallons of mud acid through perforations at 4765-4810 feet. Rotary rig has been moved to finish acidizing with a portable rig. The Clear Fork series proved barren in drilling to 6255 feet. This strike requires 3 offsets, and is expected to result in considerable development along a northwest-southeast trend.

Keystone Field: Allowable production of the Ellenburger zone was reduced from 579 barrels to 483 barrels daily per well on March 1. There are 74 Ellenburger producers, including 3 that are penalized for excessive gas-oil ratio, while the available pipe line outlet for this premium quality oil is only 45,000 barrels daily. The well allowable will probably never equal the high figure employed during late January and all of February for lack of adequate transportation. Currently there are 29 active Ellenburger tests.

☆ East Texas

High Gas Pressure Delays Bowie County Completion

Rusk County discovery failed to dual complete; completion of Bowie County's second Smackover strike delayed by high-pressure gas flow; Boggy Creek field's first deep test is abandoned.

Rusk County: Delta Drilling Company and The Chicago Corporation's Rayford 1, Jas. Smith Survey and 2 miles south of Henderson, was to proceed with completion as a gas-distillate well from the Travis Peak after testing nominal show of gas from Pettit perforations at 7146-58 feet. Casing pressure built up to 1800 pounds after using 1500 gallons of acid in the Pettit, but declined to zero when opened. Testing of the original Travis Peak perforations at 7310-7464 feet was to follow, with indicated output of about 50 barrels of 48 to 51-gravity distillate and 2 million feet of gas daily through choke.

Bowie County: Barnsdall Oil Company et al's Pickering 1, 4 miles southwest of Texarkana, had to be killed to control gas flow encountered while attempting to run tubing for completion in the Smackover at 7094 feet.

Cherokee County: Tex Harvey Oil Company's Reitsch 1, O. Weir Survey and 10 miles northeast of Rusk, was due to perforate slightly higher after showing for 1 million feet of gas and 50 barrels of salt water daily from perforations at 4347-49 feet in Woodbine, topped at 4340 feet. This wildcat will make a gasser, but the pay zone is comparatively thin.

Wood County: Delta Drilling Company's White 1, J. Stark Survey, and 1¼ miles northwest of a capped Woodbine low-gravity producer, was drilling dry sandy-shale at 5320 feet to establish the water level after logging oil saturation sand in the upper section. The Woodbine was entered near the 4975-foot level by samples, with elevation of 445 feet. Laboratory analysis of the oil sand indicated extremely low-gravity oil.

Rogers Lacy and R. J. Caraway's Cox 1-B-A, twin to a Paluxy sand producer on the southwest side of the Quitman field, was installing pumping equipment to complete from perforations at 4204-23 feet in Sub-Clarksville.

Rogers Lacy's Burford-Shell 1, Samuel Burch Survey 272 and a northwest outpost for the Merigale field, entered the Sub-Clarksville at 4900 feet with elevation of 437 feet, and was abandoned in salt water at 4968 feet. Lacy did not have production rights from the Woodbine, thus accounting for failure to continue to this formation.

Anderson County: Humble's Todd 1, Boggy Creek field, was abandoned in barren Rodessa at 12,251 feet without shows.

☆ Illinois Basin

Two Pool Extensions Are Included in Week's Report

Jefferson County producer waiting for tank room; Dundas pool reports extension; Storms pool also gets an extension.

Jefferson County: Gulf Refining Company's Knox 1, NE NE SE 4-3s-4e, approximately one half mile northeast of the West Markham City pool, pumped 590 barrels in 22 hours from Aux Vases sand at 2898-2913 feet before it was shut in for tank room.

Richland County: J. J. Lynn's Hayes 1, NE NW NW 12-4n-9e, originally called a new horizon for the East Denver township area, is hailed as a half-mile western extension of the south end of the Dundas pool. The well flowed 1350 barrels of oil in 24 hours, natural, from McClosky lime at 2905-10 feet. First reports stated the well was producing from Rosiclare sand.

White County: Sinclair and Ohio Oil companies are extending the Storms pool one-half mile northeast with Reicken 1, SE NW SE 1-6s-9e. Pipe was set to Waltersburg sand for test of pay at 2310-15 feet, which during a 20-minute drill-stem test gassed in five minutes and yielded 200 feet of clean oil.

Coles County: National Consumers'

Herkimer 3, SE NW NE 11-12n-7e, a Devonian lime oil and gas discovery in the Matoon pool, is testing lower Devonian pay, but no gauge has been made. The upper pay, regarded as poorest of the two, was estimated at 75 barrels of oil and 5 million cubic feet of gas daily.

Walter Duncan's Cobb 1-A, C of SW SE 10-13n-7e, north of Matoon pool, has been abandoned at 1958 feet.

Ben Nation is testing Rosiclare sand at Phipps 1, a possible southern extension of the Mattoon field. A plugback was under way after early tests showed little oil.

Moultrie County: Jarvis and Ford's Waggoner 1, 23-12n-7e, several miles northwest of the Mattoon pool, found non-commercial shows of oil in the Rosiclare sand near 1900 feet and shut down for orders.

Kentucky

Henderson County: Basin Drilling Company's Washburn 1, 6-P-23, 2 miles west of the Henderson pool, was completed for 200 barrels of oil in 24 hours on pump from McClosky lime at 2550-55 feet. Aux Vases sand at 2490 feet has not yet been tested.

☆ Canada

Union Joins Search For Gas and Oil in Alberta

Union Oil Company of California is joining with McColl-Frontenac Oil Company, Canadian affiliate of The Texas Company, in development of more than a quarter of a million acres on the Southeast Alberta Plains, with plans calling for a series of four test wells.

Acreage involved includes 27,000 acres of leases surrounding McColl-Frontenac's Pinhorn Gaswells, just north of the Montana boundary in Twp. 1 8w4th, and some 199,000 acres of Crown Reservation flanking the Pinhorn leases to the east, west and north, and extending 30 miles north of the boundary to the vicinity of the Foremost gas field. The block forms a rough triangle with base in Twp. 1 Rges. 7 to 11w4th, extending north to Twp. 5 Rge. 9w4th.

Geological and geophysical work has been done on the block by McColl Frontenac, in addition to the Pinhorn drilling in 1944 which resulted in discovery of gas (a little oil) in some sections, in formations down to the Devonian. Under the deal with Union, that company will provide about 75 percent of drill costs, with any oil production resulting being shared equally.

Initial well in the four-well program is slated to start within a month, with McColl Frontenac managing the project.

Home-Brazeau Syndicate No. 1, Central Alberta Foothills wildcat in lsd 5 17-43-17w5th, has completed drilling at 11,689 feet after faulting from Madison Limestone to Upper Blairmore at 11,599 feet. The limestone had been topped at 11,351 feet, with slight porosity showing in a portion of the 248-foot section. The well previously had topped the Madison at 9498 feet, set 7-inch casing at 9523 feet, and faulted back to younger formations at 9597 feet. The first lime sliver showed from ½ to 1 million cubic feet of gas on drill-stem test. Liner is being set from the 7-inch casing to the second lime sliver.

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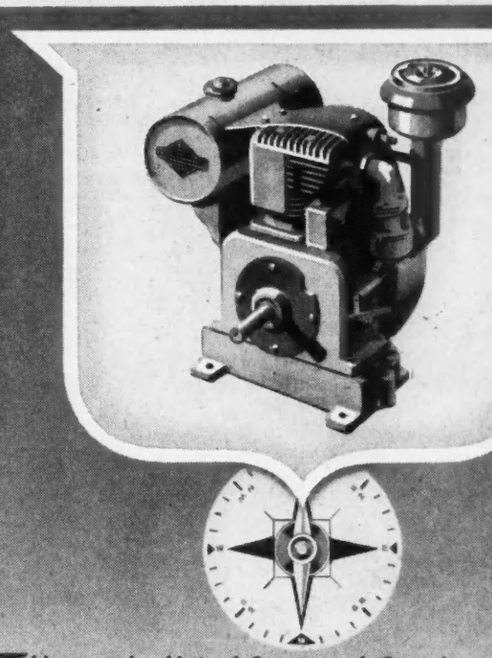

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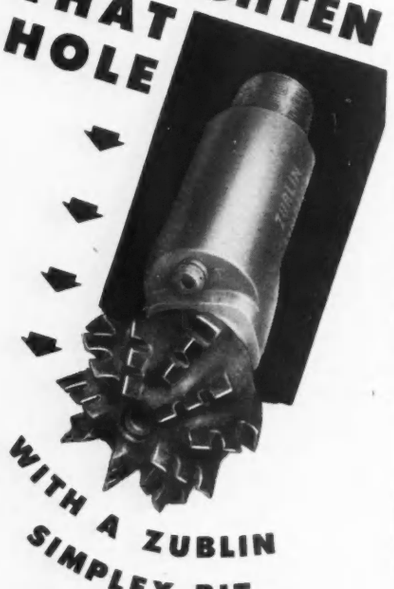

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WILDCAT STARTS

ALABAMA

Mobile County: Mikton Oil Co.'s Mike Verges 1, c se nw 21-3s-2w, lcn.

CALIFORNIA

Kern County: Edward Gieck's Woodworth 1, 30-31s-30e, S. E. Edison area, lcn.

Miller and York's K.C.L. 2, 13-28s-28e, Round Mt. area, lcn.

Royalty Service Corp.'s 34-M-1, 34-26s-27e, Dyer Creek area, lcn.

Texas Co.'s Hintz 3, 23-30s-29e, Edison area, drlg.

U. S. Drlg. Co.'s Bohen 1, 27-26s-28e, Mt. Poso area, rur.

Yolo County: Standard's Laugenour 1, 15-11n-1w, Dunnigan Hills area, rur.

Orange County: Hiawatha Exploration Co.'s Atha 1, 13-6s-11w, Huntington Beach area, lcn.

Monterey County: C.C.M.O. Co.'s 1, 6-23s-10e, San Ardo area, grading.

ILLINOIS

Clay County: Magnolia's Frost 1, sw nw sw 4-3n-6e, lcn.

Effingham County: Keating Drlg. Co.'s Roether 1, sw ne ne 23-9n-6e, dr.

INDIANA

Gibson County: Continental's Cooper 1-D, sw sw sw 13-3s-14w, lcn.

KANSAS

Barton County: B&R's Cochrane 1, se se se 5-17s-13w, dr 535.

Ellis County: Darby & Bothwell's Glass 1, nw nw sw 30-11s-19w, lcn.

Hodgeman County: Continental's Reginer 1, nw nw sw 2-24s-21w, lcn.

Ness County: Jones & Shelburne et al's Bryan 1, sw sw nw 7-16s-25w, dr 835.

Norton County: Helmerich & Payne's Kitzke 1, se se se 16-5s-21w, rur.

Pawnee County: Huber & Korwa Drlg.'s Barstow 1-A, 32-22s-15w, lcn.

Rooks County: Tom Palmer's Henderson 10, ne ne ne 34-7s-19w, rur.

Goodpasture et al's Casey 1, sw sw se 16-9s-19w, dr 160.

Sumner County: Ashland's Patton 1, se nw sw 31-32s-2e, rig.

KENTUCKY

Hopkins County: Ashby Bros.' O'Bryan 1, 3-1-25, lcn.

Union County: Penn-Ind. Oil Co.'s Anderson 1-A, 19-O-19, lcn.

NORTH LOUISIANA

Franklin Parish: Big Chief Drlg. Co.'s J. S. Ames 1, c ne nw 2-16n-9e, mim Paluxy test.

SOUTH LOUISIANA

Jeff Davis Parish: Sohio's W. L. Trimble 1, c se nw sect 2-9s-4w, China area, lcn.

Terrebonne Parish: Magnolia's State Mineral Lse. 673, 7260 fr nl 660 fr wl lse, in Tr. 4, blk 58, Gulf of Mexico, lcn.

Vermilion Parish: Phillips' Bouillion 1, 1003 fr nec alg nl sect 29 th 330 sly to lcn in 29-12s-2e, 1250-ft test.

MISSOURI

Cass County: Chas. Walters et al's Pickering Ranch 1, sw sw ne 29-46n-32w, br.

OKLAHOMA

Garvin County: Rock Hill Sd. & Gravel's Cox 1, nw ne nw 17-2n-3e, dr 800.

W. E. Anderson's May 1, nw ne nw 31-3n-1w, lcn.

Grant County: S. M. Stauffer et al's Hall 1, ne ne se 9-25n-7w, wot.

Lincoln County: Wilcox Oil's Seifert 1, se se nw 4-14n-6e, c&p.

Westgate Greenland's Peterson 1, nw sw sw 28-16n-6e, c&p.

Summitt Drlg. Co.'s Bullard 1, ne nw se 12-12n-2e, c&p.

Logan County: J. E. Trigg's Lambert 2, ne nw nw 26-15n-1w, rur.

Noble County: Westgate Greenland's Moelling 1, ne se nw 30-21n-2w, dr 1500.

Okfuskee County: Tibbens Oil Co.'s Curry 1, se se nw 18-13n-9e, rust.

Davon Oil Co.'s O'Keefe 1, se se sw 17-13n-8d, rur.

Tillman County: T. H. McCasland et al's Mounts 1, se se ne 18-2s-16w, rur.

WEST TEXAS

Andrews County: Stanolind's University 1-H-H, c se se sect 12, blk 8, on 3222-ac lse, 5600-ft test.

Crockett County: Stanolind's University 1-G-G, c sw sw sect 12, blk 39, on 2507-ac lse, 9000-ft Ellenburger test.

WEST CENTRAL TEXAS

Taylor County: Hedrick Oil Co.-Jones & Stasney's Mrs. L. Hunter 1, ne sw sw S.P. Ry. 18, blk 9, 3000-ft test.

SOUTH CENTRAL TEXAS

Caldwell County: Ogden B. Klein's D. E. Smith 1, 330 fr wl 660 fr sl 50-ac lse, L. D. Sowell sur, 2600-ft test.

Milam County: McCrary Oil Co.'s J. R. & M. S. McCrary 1, 1400 sw Brazos River, 560-ac tr, Niles F. Smith sur, Calvert area, 2500-ft test.

Travis County: E. R. Marts' M. H. Deats 1, 330 sw fr nely cor 2000 w of el 207-ac tr, J. F. Webber sur, chalk 919 ft, prep test 1400 ft.

SOUTHWEST TEXAS

Starr County: H. H. Howell's Francisco P. Margo 1, 330 fr wl 2925 fr sl 500-ac lse, Sh 3-B, Joaquin Salinas porc 70, 15 mi fr Roma-Margo fld, set sur csg on 6250-ft test.

T. E. Stephens' Zaragosa Salinas 2, 1500 fr swl 330 fr sel tr 1 sh 3 and of 1200-ac lse, La Sacatosa Gr, 2000-ft test.

Tarver & Staggs' Antioco Munoz 1, 3376 fr sel 4996 fr sel El Javali Gr, 1476-ac lse, 2200-ft test.

Webb County: Texas Co.'s M. B. de Spain 4, 990 fr el 2310 fr sl CCSD&RGNG sur 12, 640-ac lse, 4000-ft test.

LOWER TEXAS COAST

Live Oak County: Sid Katz-Texon Oil Co.'s Bronson 2, 800 fr nel 1000 fr wl L. Jacobs sur 2, 4400 n nw Bronson 1 gas well, 1500-ft test.

UPPER TEXAS COAST

Chambers County: Windsor Oil Co.'s E. W. Boyt 1, 660 fr s&el sect 25 T&NO sur, 160-ac lse, 2½ mi w Double Gum disc well, 8500-ft test.

Galveston County: J. V. Cox-F. G. Sterns' J. W. Wayman 1, 1277 s of road 407 fr wl 994.7-ac lse, sect 2 Trimble & Lindsey sur, 2500-ft test.

Harris County: Jack W. Frazier's Hall's Bayou Realty Corp. et al 1, 400 fr wl lot 13, blk 2, 344 fr sl 20.5-ac unit, 2 mi w Dyersdale prod, Mt. Houston area, 4500-ft test.

J. E. Ludeau's A. W. Augsburger 1, 330 fr sl 330 fr wl 70-ac lse, W. J. Foster sur, Little York area, 4100-ft test.

Waller County: Sam Haden Harper's I. H. Stahlma 1, 385 fr sl 660 fr n&el 40-ac lse, J. A. Padillo sur, 6000-ft test.

NORTH TEXAS

Archer County: S. F. Hutcheson et al's A. L. Harris 1, 1050 out of swc blk 60, John W. Harris sbdn, 1450-ft rotary test.

D. H. Bolin et al's John Purcell 3, 1950 ewl 1310 nsl blk 80, Jefferson CSL sur, lcn.

Trumter Pet. Corp.'s W. C. Thomas 1, 549 fr e and w 1500 fr sl blk 2, n½ of N. Thomas sur, A-454, 1600-ft rotary test.

Bridwell Oil Co.'s E. A. DeBus 1, 600 ewl 2050 snl S. P. Ry. 2, A-1202, 1900-ft rotary test.

Cooke County: J. W. Baldwin et al's E. A. Stanley 1, 330 snl 960 ewl of 152-ac tr in John DeMarcus sur A-314, 3000-ft test.

Leland Fikes et al's C. W. & D. L. Morrow 1, 420 nsl 330 wel of 137-ac tr, sect 5, Cooke CSL, 2000-ft rotary test.

Knox County: Youngblood & R. L. Foree's T. J. Cartwright 1, 2640 ewl 30 nsl H&TC Ry. 70, blk 45, 1900-ft rotary test.

Wilbarger County: Paradise Oil Co.'s W. T. Waggoner 1-H, 330 ewl 1500 snl H&TC Ry. 5, blk 17, 4600-ft Ellenburger test.

Tulsans Buy Properties

Nebraska Producing and Refining Company refinery and property at Salem, Neb., and producing leases in the Falls City and Dawson fields of southeastern Nebraska, have been purchased by J. R. Watt, Tulsa Iron and Metal Company; Meyer Moran, Moran Oil Company; A. M. Stekoll, Tulsa Supply Company; and John Peters of Salem, Neb.

Watt, Moran, and Stekoll bought the Ohio Oil Company properties in the Fall City field last year and they intend to combine the several properties.

The Falls City and Dawson pools are located in Richardson County, in the Forest City Basin. The Salem refinery was designed for 5000 barrels skimming capacity.

Ask for Houses

Barnsdall Oil Company has been requested by citizens of Plain Dealing, Bossier Parish, Louisiana to construct 50 homes near that town where a recycling plant is to be built for the Benton field.

EXPLORATORY COMPLETIONS

ALABAMA WILDCAT

Madison County—Failure: Newman's Albert Lam 1, sw nw 10-4s-1e, abnd 930.

ARKANSAS WILDCAT

Prairie County—Failure: M. W. Martin et al's W. H. Stewart 1, 3-3n-5w, abnd 2330.

CALIFORNIA WILDCATS

Kern County—Failures: U. S. Drlg. Co.'s Olcese 1, 17-28s-29e, Round Mt. area, upper Vedder 2345, abnd 2600.

Western Gulf Oil Co.'s K.C.L.-Los Lobos 2, 4-10n-22w, San Emidio area, abnd 4189.

Los Angeles County—Failure: Dumm Brothers-Olympic Ref. Co.'s 16, 29-1s-12w, Los Angeles City area, abnd 4988.

FLORIDA WILDCAT

Liberty County—Failure: Pure's Neal Lbr. Co. 1, nwc 33-2s-8w, abnd 4506.

GEORGIA WILDCAT

Crisp County—Failure: Kerr-McGee Oil Industries' Cecil Pate 1, Land Lot 144, Land Dist. 13, Eutaw 1888, Tuscaloosa 2392, Massive 3232, abnd 5008.

ILLINOIS WILDCATS

Cumberland County—Failure: Jarvis Bros. et al's Miller 1, se ne nw 20-10n-7e, abnd 2323.

Effingham County—Failure: A. J. Hammer's Kuhring 1, sw sw ne 11-6n-7e, abnd 3031.

Wayne County—Failure: F. R. Beasley's Ellis 1, se se sw 21-2s-7e, abnd 3470.

INDIANA WILDCAT

Gibson County — Oil Discovery: Ryan Oil Co.'s Clift Hrs. 1, sw se sw 23-1s-12w, 15 bbls day, T.S. 1649-68, td 2365.

KANSAS WILDCATS

Butler County—Failure: J. P. Gaty's Boucher 1, se ne sw 18-27s-3e, KC 2343, Arb 3255, abnd 3270.

McPherson County—Failure: NCRA's Moore 1, se se nw 1-20s-4w, Viola 3745, Arb 3840, abnd 3888.

Rice County—Failure: B & R Drlg.'s Scott 1, sw sw sw 1-20s-10w, Arb 3334, abnd 3368.

KENTUCKY WILDCAT

Henderson County—Failure: W. L. Lichlyter et al's Hughes 1, 685 ft wl 2370 ft nl, 10-Q-25, abnd 2250.

NORTH LOUISIANA WILDCAT

Franklin Parish — Failure: F. B. King's Baskim Est. 1, c se nw sw 35-16n-7e, chalk 2834, Tuscaloosa 2840, L. Cret. 3460, abnd 4003.

SOUTH LOUISIANA WILDCATS

Cameron Parish—Failure: Superior's Miami Corp. 1-E, 330 n&w c 9-14s-5w, abnd 10,100.

Iberville Parish — Failure: Humble's Baist Cooperage Lbr. Co. 1, 92-10s-13e, Bayou Sorrell area, abnd 10,960.

St. Mary Parish—Failure: Texas Co.'s State-Cote Blanche Island Lse, 340-8, fr nwc 11-15s-7e, 8200 s 2200 e to lcn, abnd 6239.

Vermillion Parish—Failure: Humble's A. J. Marceaux 1, 29-12s-2e, abnd 12,177.

SOUTH LOUISIANA NEW PAY TEST

St. Mary Parish—Belle Island Gas Discovery: Texas Co.'s State 340 Atchafalaya Bay 4, on State Lse 340, T-18s-10e, new pay 9790, perf 96 shots 9780-9806, flow 2 mln dry gas, 10/64-in, td 10,653.

MISSISSIPPI WILDCATS

Adams County — Oil Discovery: Roeser & Pendleton-Sohio's Baker-Maier 1, nwc 34-6n-2w, 8 mi se Natchez, elev 351, Wilcox 4345, Tuscaloosa 9833, M Tuscaloosa 10,155, flow 97 bbls 39.2-gr oil, 400 bbls sw, ¼-in, 30 perf 10,544-549 Massive sd, td 10,673.

Chickasaw County—Failure: A. W. Hutchings' W. C. Stone Jr., se sw 29-12s-5e, Cypress 2432-52, abnd 2506.

Lawrence County—Failure: Humble's V. L. Parkman 1, swc 8-6n-20w, Wilcox 1560, Tuscaloosa 6440, abnd 8761.

MISSISSIPPI OUTPOSTS

Adams County—Carthage Point Extension: Humble's Mrs. C. L. S. McKittrick 1, sec 12-6n-3w, elev 73, Wilcox 4135, Massive 10,247, flow 250 bbls 54.4-gr, 2,278,000 gas fr 40 perf 10,278-83 Massive sd, td.

Jeff Davis County—Gas Field Extension: Gulf's Vinnie Walker 1, nwc ne sw 34-9n-19w, 1 mi sw prod, Wilcox 2831, Eutaw 7682, Tuscaloosa 8100, Massive sd 9254, flow 4,125,000 gas, 31.2 bbls 50.2-gr per day, ¼-in tbg chke fr Tuscaloosa 8074-90.

MISSOURI WILDCAT

Caldwell County—Failure: O. R. Newcomer's Zeikle 1, c sw nw 27-55n-29w, Vi 1380, abnd 1400.

NEW MEXICO WILDCAT

Chaves County—Failure: Martin Yates Jr.-J. R. Miller-Continental's B. W. Mullis-Federal 1, c se sw 21-15s-29e, elev 3809, anhy 95, salt 230-805, Yates 945, red sd 1675, San Andres 2365, Glorietta 3835, Tubb (Clear Fork) 5190, abnd 5675.

NEW MEXICO NEW PAY TEST

Lea County—Penrose-Skelly New Oil Pay: Rowan Drlg. Co. et al's Elliott 2-B-15, c ne ne 15-22s-37e, e offset to 6400-ft Yeso prod, 1½ mi w by s of Paddock fld, nearest Glorietta prod, elev 3397, salt 1220-2500, li 2800, San Andres 3860, Glorietta 5080, flow 218 bbls oil, 14% wtr, 2% bs, ¾-in, 7000 gals acid Glorietta perf 5117-5219, td 5350, pb 5285.

OKLAHOMA WILDCATS

Caddo County — Failure: Four States Oil Co.'s Brewington 1, ne ne nw 18-6n-13w, Simpson 1065, abnd 1404.

Carter County—Failure: J. D. Lewis et al's Rose 1, nw sw nw 4-5s-2w, abnd 3010.

Cotton County—Failure: T. H. McCasland's Hill 1, se ne ne 4-3s-12w, abnd 2590.

Garvin County—Failures: Rock Hill Sd. & Gravel's Cox 1, nw ne nw 17-2n-3e, Simpson 1783, abnd 1819.

Pecos Valley Mills Co.'s Fee 1, ne ne se 7-3n-1e, McLish 3810, abnd 3970.

Lincoln County — Oil and Gas Discovery: Ray L. Kemp's M. J. Brown 1, sw nw se 20-16n-5e, flow 25 bbls oil, 1 mln gas, Prue sd 3375-80, td 4022.

Logan County — Oil Discovery: Sinclair Prairie's Teuscher 1, se se sw 34-15n-1w, flow 549 bbls oil, Wilcox 5929-41, td 5941.

McClain County—Failure: Shell's Kniffin 1, sw ne 17-5n-1e, abnd 6224.

Payne County—Failure: British American's Gibson 1, nw se sw 8-17n-2e, Miss 4436, abnd 4632.

Stephens County—Failure: W. H. Atkinson's McCutchens 1, nw se sw 22-2s-8w, abnd 3477.

WEST CENTRAL TEXAS WILDCATS

Callahan County—Failures: Eaton & Looney's Dyer 1, 150 nsl 1550 ewl BBB&C Ry. 135, abnd 830.

R. F. St. John et al's Estes 1, sw nw sw BBB&C Ry. 55, elev 1963, abnd 1955.

Shackelford County—Failure: Jones-Stasney & Roark's Lee 1, 220 fr nwl 1690 fr swl TE&L Co. 826, abnd 748.

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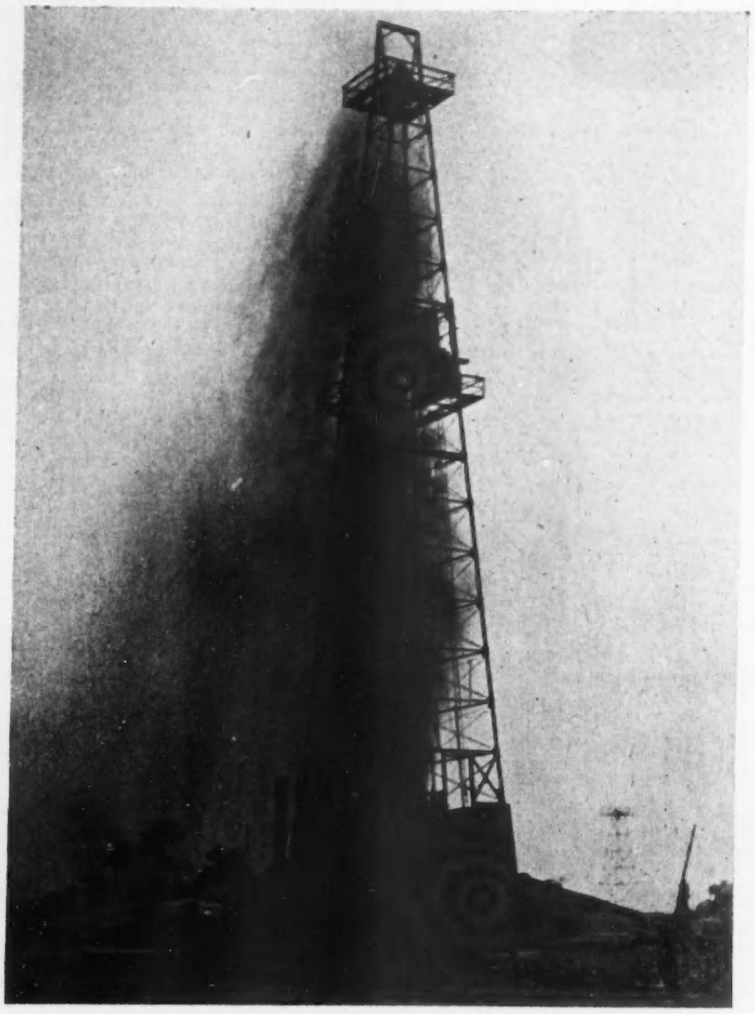

Thousands Cheered...

. . . yesterday's gushers, despite their profligate waste of oil. Yet today no one mourns their passing. The gusher was the symbol of the industry's early chaotic days, the days of quick profits and equally quick losses, of fortunes made or lost through happenstance. Vast progress has marked the years between: oil has been recognized as a great natural resource which must be conserved, all the resources of science have been called on to find it, all the skill of the engineer to produce it, and the best manufacturing and business brains of the country to make and market the finished product.

With an oil country experience dating back to Spindletop and Corsicana, the First National is thoroughly acquainted with developments within the industry. It speaks the oil man's language, understands his banking needs, is fully equipped to serve him.

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in Houston

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Taylor County—Failure: R. H. Roark et al's L. N. Brown 1, 4057 snl 3726 wel Jose Gabo sur 128, elev 1746, abnd 2776.

SOUTH CENTRAL TEXAS WILDCATS

Bexar County — Failure: Harry S. Stahl's Ross Conway 1, 2 miles n Eckert fld, Rosilla Crk area, in blk 12, N. Montaya sur 21, abnd 955.

Bexar County—Rosilla Creek Oil Discovery: Harry S. Stahl's Pablo Verjeda 1, 1000 fr s&wl s 200-ac 390-ac tr (blk 11), N. Montaya sur 21, 2 mi n Eckert fld, pay 845-50, pump 1½ bbls 38-gr, td 863.

SOUTHWEST TEXAS WILDCATS

Duval County—Failure: J. W. Gorman et al's F. D. Lowe 1, 330 fr n&wl AB&M sur 76, 1 mi s Gorman's Roos 1 disc gas well in McMullen Co., abnd 3377.

Webb County—Failure: Dulaney Oil Co.'s Bruni 21, 990 e of wl 1517 n of sl blk 73, 111.9-acs, Brown sbdn of Albercas Gr, abnd 1765.

LOWER TEXAS COAST WILDCATS

Bee County—Failure: Sam E. Wilson's Page Est. 1-A, start sec 400-ac lse, C. Rivas sur, go sw alg sel 5333.3 th nw at ra to lcn, 50 e of jnkd hole 1, abnd 9003.

Nueces County — Failure: Standard's Mrs. Lucy F. Cooke 1, 660 fr nl lot 5, which is nl Jones sbdn, on 1021.5-ac lse, Edwin R. Oliver sur sect 157, abnd 8517.

UPPER TEXAS COAST WILDCATS

Harris County—Failures: Jack W. Frazier's Greens Bayou Homesite 1, 330 fr s&el S. C. Hiroms sur and lot 1, 2000-ac lse, e ne abnd Brooks 1, se dry hole on same lse, abnd 5301.

J. C. McKeeham's F. H. Liestman 1, 660 fr n&wl 40-ac blk, c of tr, Pillott sur, 1 mi w of Alief, abnd 8506.

Jefferson County—Oil Discovery: McCarthy O&G Corp.'s Tyrrell Tr. 3, 660 fr el 330 fr sl n½ sect 82, ¾ mi e of dry hole 1, N. W. Hamshire area, 1030.3-ac lse, W. C. Dunshie sur sect 82, pay 10,160, perf 48 shots 10,161-169, flow 217 bbls 39.6-gr oil, 0.2% wtr, 11/64-in, gor 1217/1, tp 1000 lbs, td 10,789.

Jefferson County—Failure: Texas Co.'s J. I. Janes 1, 330 fr s&el 850-ac lse and Manuel Chirno sur, 2¾-mi ne Fannett prod, abnd 8720.

Trinity County—Failure: Magnolia's Oscar Gibson 1, 1050 fr sl 50 fr wl C. Sanchez sur, 10-ac tr, Apple Springs area, abnd 8407.

UPPER TEXAS COAST OUTPOSTS

Brazoria County—Danbury Flank Failure: Humble's Bennett O&G Co. 1, 484.16-ac lse, HT&B sur, lot 13, blk 1, ½ mi n nw Schmidt 1, abnd in salt 6790.

Hardin County — Ariola S. Flank Failure: Houston Oil Co. of Tex.-American Republics' Fee 18, 4328-ac lse, Edward Ariola sur, s of prod, 3143 se Well 3, salt 7970, abnd 8010.

EAST TEXAS BORDER COUNTIES WILDCAT

Harrison County—Oil Discovery: R. W. Williams' J. M. Furrh Est. 1, Francis O'Neil sur, 3 mi w Elysian flds, Massive 4876-5115, Rodessa 5230-5337, Pettit 6038, Travis Peak 6246, perf 56 shots 6294-6308, flow 20 bbls 31.9-gr, 11/32-in, tp 600 lbs, td 6850, pb 6330.

NORTH TEXAS WILDCATS

Archer County—Failures: E. P. Bowen et al's Harris 1, 450 out swc blk 71, J. W. Harris sbdn, abnd 1430.

Bridwell Oil Co.'s Ingersoll 1, 2410 nsl 850 wel S.P.Ry. 1, abnd 1649.

Wichita County—Failures: Akin-Dimock et al's Goetze Bros. 1, 600 snl 1400 ewl sect. 2, Day Land & Cattle Co. sur, abnd 2469.

Nat. Assoc. Pet. Co.'s Krohn 1, 330 out nwc blk 288, Waggoner Colony Lands, elev 1115, abnd 3618.

Frank Wood's Robinson 1-B, 1170 nsl 750 ewl blk 321, Waggoner Colony Lands, abnd 2071.

NORTH TEXAS NEW PAY TEST

Cooke County—Sivels Bend Ellenburger Discovery: Standard of Tex. Beasley 2, 610 nsl 1900 wel of J. McKerley sur, offset Strawn pro. elev 884, Detrital 7980-8120, Simpson 8120, Ellenburger 8640, flow 171 bbls, 41.7-gr, gar 450/1, ¼-in, 12,000 gals acid Ellenburger perf 8905-40, td 9164, pb 9011.

WYOMING WILDCAT

Fremont County — Oil Discovery: Sinclair Wyoming Oil Co.'s DuBois Unit 1, ne 11-42n-107w, DuBois area, swab 80 bbls, td 3571.

Kansas Allowable

The Corporation Commission of Kansas has set the March oil production allocation at 250,000 barrels daily, a decrease of 5000 barrels daily from the January-February average.

Purchasers nominated 317,117 barrels of oil a day, comparing with nominations of 320,581 barrels for February. A number of representatives favored reducing the minimum state allowable.

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FOR SALE

■ Standard drilling outfit, complete, A-1 condition. New Young 145 hp motor, new 5000-ft. wire lines. $8500. L. A. Bolte, R. #2, Bunswick, Ohio, Phone W. Richfield 2423.

■ FOR SALE: 55 Heavy Duty Wichita Falls Spudder, Center spool, new style reverse, chain driven sand reel, chain driven casing drum, high and low speed; Mast 52', 5 x 14, with catapillar motor #60, combination carburetor, all in good condition, priced to sell. W. W. Holmes, Box 567, Amarillo, Texas.

■ FOR SALE: $1000.00 cash. 6¾ x 12 open end type Union Tool Power Mud pump, Heavy duty gear end, Mission Liner's rods, valves & seats. Call or write: C. T. Alford, 2107 Grant Street, Wichita Falls, Texas.

■ Rotary Drilling Rig suitable for shallow drilling Mast Poles, WitchTex Drawworks, 5 7/8 x 12 Oil Well Pump, 2000 ft. 4½ in. Drill pipe. Recently finished 1900 ft. contract. Rig is complete. Price $8,500. C. G. Hart, 2400 Grant St., Wichita Falls, Texas.

■ FOR SALE: Rotary Rig, recently rebuilt, approximately 3000 ft. depth. New Oil Well Slush pump 6 x 12, Imperial table, comparatively new mast, draw works, cat heads, all mounted on trailer and skids. 3000 ft. 4½ x 30 Lone Star pipe with full hole tool joints, 1000 ft. never used, 2000 ft. used only 6000 feet, also 100 joints 3½" and 76 joints 4½". Rig unitized into five major parts enclosed in steel curtains, plus all small equipment including tanks, tools, etc. Used only on shallow wells. Inspection at Burkburnett. Bargain complete, cash $39,000.00. Address: Box 2, c/o The Oil Weekly, Houston, Texas.

FOR SALE:

1—Power Pump — 4 x 6 Fairbanks-Morse Oil Bath c/w Allis-Chalmers —4 cyl. Type E—52 H.P. Motor—steel skids	$1,050.00
1—Motor—Le Roi—4 cyl. Model 471..	450.00
1—Crown Block — Emsco—RB—36"—5 sheave—Type EA-57 c/w catline sheave	750.00
1—Swivel—Ideal—6"—Type AA.....	700.00
1—Rotary — Emsco — RB — 25½" — Type DA	1,000.00
1—Pulley—66"—PD—12F—Grooved (new)	150.00
1—1.5 K.W.—Kohler Light Plant.....	350.00

(All items completely reconditioned & guaranteed)

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■ NOORDUYN NORSEMAN AIRCRAFT: Licensed, repainted and in top condition. Ideal for as many as 8 people, or, 2500 pounds cargo. Total aircraft time 478 hours. Engine time (Pratt & Whitney, 650 H.P.) 122 hours since major overhaul. Price $12,500.00. Call W. J. (Jack) Moser, Dallas, Riverside 4821.

■ FOR SALE: "Two Nixon Type C. Intermitters located in Lea County, New Mexico, unitized and in good condition, priced reasonably. Inquire Uscan Drilling Company, 2811 Apco Tower, Oklahoma City, Oklahoma."

■ **FOR SALE:** Derrick, 122 ft. Lee C. Moore erected near Wichita Falls. Address: Ben Pepperdine, 6422 San Vicente Blvd., Los Angeles 36, California.

■ 40,000' of 14" x .400" wall thickness, Youngstown Sheet & Tube new seamless steel tubing, 54# to foot, to 45' lengths. Can be bought reasonable. Max Zeigler & Bros., Muncie, Indiana.

FOR SALE: 6000 acres of land including mineral rights at $8.00 per acre. Forty miles north Muscle Shoals. Will divide smaller tracts. Water and timber on land, Near Highway. Address: Box 6 c/o The Oil Weekly, Housotn, Texas.

FOR SALE

FOR SALE

3 110 H.P.—275# W.P. Broderick Boilers complete with stacks, H.H. Plates, water gauge Glasses and gauge cocks—A-1 Condition. Battery price.....	$6,000.00
213 Joints NTC 5-9/16" O.D. 22.90# IUE Drill Pipe—Good Condition with 213 Hughes Reg. Acme Tool Joints welded on (Joints caliper 6-5/8") ft.	1.90
1 122' x 24' x 5'6" top — 537,000# cap. Parkersburg drilling derrick galvanized, with steel substructure and wood bottom...	2,400.00
1 116' x 24' x 5'6" top — 410,000# cap. Parkersburg drilling derrick galvanized, with hardware and run around	1,000.00
1 8" water cooled drum shaft—7½" line shaft, shop unitized Big Texan Type Draw Works with roller bearings on drum shaft, rotary, engine guards, automatic cathead, sprockets and chains in good condition.	2,000.00
1 27" Oil bath Ideco rotary, skidded, with WKM drive bushings to fit 5½" grooved kelly—sprocket to be replaced.....	450.00
1 5½"x41' grooved kelly with 6" reg. API box on top to 4½" FH API Pin	200.00
2 Quint-o-plex type Martin-Decker weight indicators—good condition	300.00
1 12½"x20' welded water heater	50.00
1 Model LR Thompson shale shaker—needs new screens....	200.00
3 Sets Inferno low water controls—good as new (65% new price)	910.00
1 14" detachable all steel RB Brewster cat line sheave—new	100.00
1 6" Union Tool Wagie Hook...	150.00
1 2¼"x6¼"x30' new Reed Drill Collar with 4½" API FH Box to API Reg. Box	775.53
1 18 tooth steel engine sprocket for 12 x 12 RB Ideal Ajax drilling Eng.	100.00

Note: All of the above equipment located in the Laurel, Mississippi area. Prices are F.O.B. yard. All items subject to prior sale.

Would consider trading for 10,000 foot capacity draw works and 6000# pressure operated blow out preventer, ram type.

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■ **SEISMIC PARTY CHIEF** wanted by well known established contracting company. Must be college graduate with at least five years experience in interpretation preferably Gulf Coast. Excellent salary and opportunity. Only highly experienced applicants will be considered. Write Box 1, The Oil Weekly, Houston, Texas.

WANTED TO BUY

■ WANTED TO BUY: Truck, Trailer or Skid Mounted Pulling Unit with Mast or Portable Derrick for servicing 8000 foot Wells. No junk, must be A-1 shape. P. O. Box 835, Houston 1, Texas.

SITUATION WANTED

■ Released naval officer—graduate Petroleum Engineer with 5 years oil field experience, desires contact with concern engaged in oil field work. Address: Box 97, c/o The Oil Weekly Houston, Texas.

Deep River Field Runs Increased by New Order

A new proration order, effective March 1, for the Deep River field, Arenac County, allows 80 barrels per day for 10-acre Dundee dolomite wells on a flat per-well basis. The new order automatically canceled the controversial "field wide" proration order placed in effect on October 16, 1945, which limited the pool to 4000 barrels daily. When placed in effect the "field wide" order permitted individual well runs of 100 barrels per day but later field extensions and opening of the field to 10-acre drilling jumped the number of producers in 4½ months from 39 to 74 which resulted in cutting individual runs down to 55 barrels daily the last half of February.

Producers petitioned the state in December to return to a flat well system of 100 barrels. Operators contended that the rate of withdrawal would not affect ultimate recovery.

State engineers proposed the "field wide" system to maintain reservoir pressures which they contended dropped too fast when production was increased above 4000 barrels daily. They also argued that the pool has definite evidence of water drive.

The new order will increase total daily runs from 4000 to 6000 barrels daily.

Three Wildcats Seen for Northwestern Oklahoma

Champlin Refining Company is digging cellar and pits for their Schribner 1, SE SW NE 14-28n-19w, a Wilcox sand test in northwestern Woods County, near the west edge of Champlin's 27,000 acre block. Based on surface geology, the test will be drilled to 6800 to 7000 feet in the Wilcox. Nearest production is in the Medicine Lodge field of Barber County, Kansas, 40 miles northeast.

Continental Oil Company has located Howard Unit 1, 18 miles southwest of the Champlin wildcat, in SW SW SE 15-27n-21w. Interests in this venture are held by Champlin, Wilcox Oil Company and Allied Oil.

To the southeast in Major County it is proposed to unitize leases in 15-22n-9w for a test to the Hunton lime and possibly to the Wilcox. The Atlantic Refining Company, Globe Oil and Refining Company, Mid-Continent Petroleum, Wilcox Oil Company, Champlin, Superior Oil Company and Devonian Oil Company have leases in the section. This proposed location is seven miles northeast of Superior Oil's producer which is making 100 barrels of oil per day.

National Sells Kansas Oil Properties to Sohio

Standard Oil Company (Ohio) has purchased all lease interests in Kansas held by National Refining Company. This gives Sohio control of the properties which were acquired in 1943 from Nate Appelman, who sold a half-interest to each of the companies. National's share of production in 1944 was 242,616 barrels of oil.

Also included in the deal was National's interest in 36,000 acres of leases on flank of the Hugoton gas field in Finney, Haskell and Kearny counties, with Helmerich & Payne, Inc., owners of the other half.

SQUEAKS from the BULL WHEEL

Threat Carried Out

Two girls who hadn't seen each other for years met one day and began recalling old times.

"Do you remember the red-headed boy who lived around the corner from you?"

"I'll say I do. He proposed to me and when I turned him down he threatened to do something dreadful. Wonder what happened to him?"

"He happens to be my husband" was the snappish answer.

A Wise Choice

"Why did you choose to be a skin specialist?"

"Because my patients never get me out of bed at night, they never die and they never get well."

The Man Should Know!

"I git lonesome since my wife left me. Ain't got nobody to talk to."

"Then why don't you git married again?"

"Mought git a wuss one next time."

"Well, then, I reckon you'll have just to learn to talk to yourself."

"Been doing that already, but it ain't no use. 'Fore the end of the first week I got so I didn't believe a dad-blamed word I said!"

Putting It Another Way

His seniority had been overlooked in making a promotion. Naturally disgruntled, he demanded why his 20 years of experience had been overlooked.

"My friend," was the explanation, "in reality you haven't had 20 years of experience—you have had 1 year's experience 20 times."

Ideas Differ

Jane and I have decided our happiness is the biggest thing in the world.

You change your minds so often—just yesterday you wanted to marry her.

Odds

"Didn't you go to see the doctor I told you about?" asked the trainer.

"Yeah, I went to his office," moaned the jockey.

"Well, didn't he do you any good?"

"I didn't go in. There was a brass plate on the door: '10 to 1.' I wasn't going to bother with a long shot like that!"

As Usual

"Has your wife changed very much since you married her?"

"And how—my habits, my friends and my hours."

Beautiful Spring

"When the snow and ice have gone," said the teacher, "and nature awakes from her long sleep, an the tiny buds appear, then what do we have?"

"Sulphur and molasses."

Size Has It

"My dear, what a lovely chateau you are wearing!"

"Thank you, dear. But, the word is chapeau."

"Darling, when a hat's that size, it's a chateau!"

Crying Strategy

"Give me a nickel for the poor man out front who is crying."

"Certainly, Johnnie, here is a nickel to help the poor man, but what is he crying about?"

"He's crying, 'fresh peanuts, five cents a bag' !"

Speeder

"It's great speeding along like this. Don't you feel glad you're alive?"

"Glad isn't the word for it. I'm amazed."

Just Lay Down

Funeral Director (to aged mourner): "How old are you?"

"I'll be 98 next month."

"Hardly worth going home, is it?"

Double Scratch

"I insured my voice," said the famous singer, "for $250,000."

"And what," inquired her rival, "have you done with the money? You certainly didn't spend it on clothes."

The Old Salve

Young Miss: "I'm looking for something particularly nice for a young man."

Salesman: "Have you looked in the mirror?"

A Word in Season

"So you're going to take my daughter from me without any warning?"

"Not at all, sir. If there is anything about her you want to warn me of please tell me."

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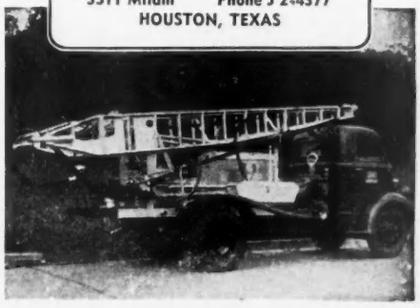

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To prove the value of our services we will report, in advance of completion, the outcome of several wildcat wells being drilled by Major Oil Companies in various states. Reports will be sent to those interested in our services, with no obligation.

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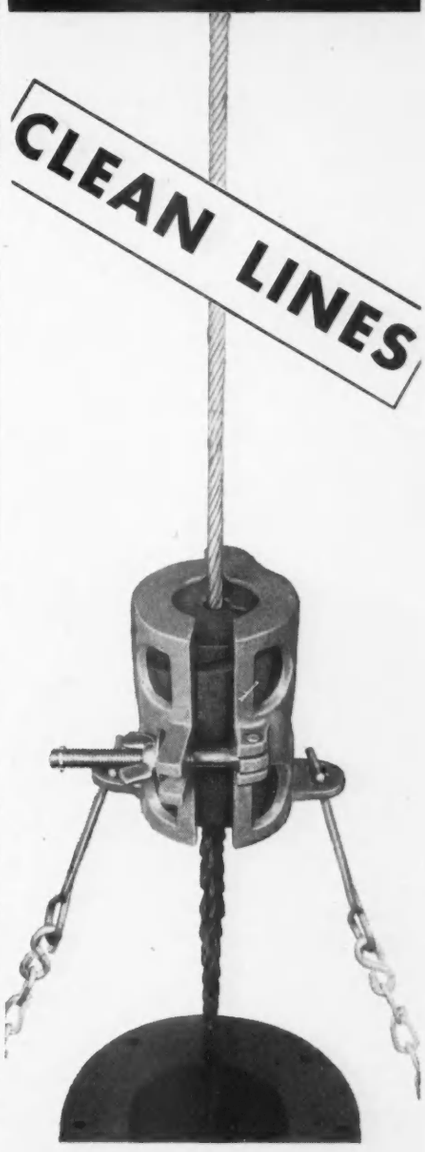

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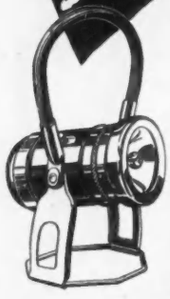

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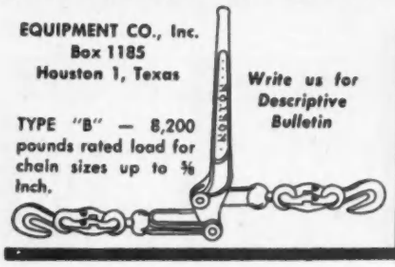

Write us for Descriptive Bulletin

MEN IN THE INDUSTRY NEWS

ALLAN H. HAND, former executive secretary-treasurer for the Petroleum Industry War Council, Washington, was recently named vice president of The Ralph M. Parsons Company, Los Angeles. After two semesters in the University of California, he spent a few years in marketing and refining operations, followed by 15 years in general and financial accounting, petroleum economics and statistics. For the past 10 years he has been active largely in management and administrative work and in operating and organizational problems in all branches of the oil industry. During 4 years of war, he organized the Petroleum Price Division, Fuel Section, Office of Price Administration and later was transferred to the Office of Petroleum Coordinator (PAW) to organize the Transportation Division. From that position, he went to secretary-treasurer of the Petroleum Industry War Council, and in 1944 was promoted to executive secretary-treasurer of PIWC.

Allan Hand

* * *

G. R. BRAINARD, CAPT. CHARLES A. HULL, CAPT. T. M. OCHLETREE, JR. and **LT. HAROLD PIERCE** have rejoined Shell Oil Company, Inc. after service in the U. S. Army. Brainard will be assistant district superintendent, West Texas Division, Odessa; Hull assistant district superintendent, McCamey, Texas; Ochletree exploitation engineer at Odessa and Pierce, exploitation engineer in the West Texas division office at Midland.

* * *

M. A. ABERNATHY, vice president of United Gas Oil and Gas Pipe Line companies, and **J. C. HAMILTON,** executive of Arkansas Natural Gas Corporation, have been named to the board of trustees of Centenary College, Shreveport, La.

R. L. KIDD and **FRANK M. PERRY** of Bartlesville, Okla., have been elected to the board of directors of Cities Service Oil Company. Kidd, manager of the land and geological division, has been with the company 20 years, serving in Kansas and Oklahoma. Perry, manager of the natural gasoline and chemical division, first came with Cities Service in 1919.

* * *

MALCOLM C. OAKES, field geologist for the Oklahoma State Geological Survey at Norman, gave a talk February 21 on the "Geology of Haskell County, Oklahoma," before the Shawnee Geological Society.

* * *

E. T. HECK, formerly with the West Virginia Geophysical Survey, has joined the staff of the New York State Geological Survey at Albany where he will be in charge of all oil and gas investigations.

* * *

DR. CHARLES NEWTON GOULD, who founded the geological department of the University of Oklahoma, spoke March 4 to the Tulsa Geological Society on "Pioneer Geology in Oklahoma," recounting some of his experiences in that state.

* * *

G. E. BURPEE, senior exploitation engineer, Lake Charles, La. Division, has been transferred from Lake Charles, La. to the Houston office of Shell Oil Company, Inc., as chief exploitation engineer, and will serve as senior technical advisor and consultant to the production department management.

* * *

D. F. "DUKE" BLOOM, with 16 years of oilfield experience, has been appointed division manager of Security Engineering Company at Craig, Colo. He has had experience in the Gulf Coast, Oklahoma, New Mexico, California and the Rocky Mountains.

* * *

LT. COMDR. CHAS. M. THOMAS, supervisor of the Southern District for the U. S. Coast and Geodetic Survey, will give an illustrated lecture on "Modern Offshore Hydrographic Surveying," at the meeting March 12 of The Gulf Coast Section of AIME.

Lufkin Representatives Meet

Sales and service engineers of Lufkin Foundry & Machine Company at their annual meeting made plans for the year and heard discussion of all the equipment being offered by the company. Quite a research staff was maintained throughout the war and many improvements were made on regular items and new items developed. The company is now building a complete line of commercial reduction gears, speed increasers, oil field pumping engines and truck traielrs of the oil field and van type, in addition to commercial grey iron castings. Shown in picture, above, left to right; First row—D. A. Reid, E. H. Bounds, L. A. Little, M. B. Harrison, C. D. Richards. Second row—R. L. Miller, A. E. Cudlipp, L. A. Long, A. E. Caraway, W. T. Crowder, J. B. Hopper. Third row—Gus Winn, Robert Lang, J. Taylor Hood, W. H. Miner, Elvin Reed. Fourth row—V. B. Glenn, W. C. Trout, W. W. Trout, H. A. McKerrall, E. P. Trout, G. L. Vickrey, D. K. Womack.

MEN IN THE INDUSTRY NEWS

COLONEL AME VENNEMA, on leave of absence with the United States Army for five years, has rejoined Schlumberger Well Surveying Corporation and has been appointed assistant to the Louisiana division manager in charge of gun perforating and allied services. Headquarters will be maintained in New Orleans.

Ame Vennema

Before entering the Army in December 1940, Vennema was stationed at Houma, Louisiana, where he was employed as an electrical logging engineer for Schlumberger.

• • •

ROBERT E. MORRISON, formerly production geologist for Cities Service Oil Company in the West Texas District office, has resigned to open a consulting office at Abilene, Texas. Prior to his work with Cities Service, he did consulting work in Oklahoma.

• • •

R. VAN A. MILLS, former proration engineer in the production and drilling department of Continental Oil Company has retired and will be succeeded by **C. R. ALLEN,** who has been division superintendent in the Illinoi-Indiana field. Effective March 5, **F. B. HAVERFIELD** will become manager of the company's natural gas division to succeed **R. A. CARTER** who recently resigned. **E. F. BATSON** of New York City, former eastern sales manager in the marketing department will succeed to assistant to the president, previously held by **GEORGE D. OLDS** who has resigned.

• • •

C. F. "CLIFF" WARNER, former district manager for International Cementers, Incorporated was appointed California sales representative of Larkin Packer Company effective February 15. Accumulating 22 years experience in the cementing business, he first started with Perkin's Cementing Company in 1923 and worked his way up to field manager, a position he held until the firm was sold in 1940. Later the same year, he joined International.

• • •

R. H. DAVIES, former Washington representative for the Lincoln Electric Company, will become the company's consulting engineer in charge of educational work with offices in Cleveland, Ohio. He will act as consultant on the use and design of welded steel in machinery manufacturing and structural construction, and his services will be made available to industry generally.

• • •

S. E. LAMBERT, formerly exploitation engineer for the Shell Oil Company, Inc., at Tulsa, has been transferred to Houston as senior exploitation engineer in the Texas-Gulf area.

• • •

J. Q. MEYERS, formerly of Houston, has been transferred to the San Antonio district office of the Shell Oil Company, Inc. as senior geologist.

• • •

ROGER W. BATCHELDER, recently released from the United States Army Air Forces with the rank of colonel after five years active duty, has been appointed general purchasing agent for the American Brake Shoe Company to replace **WILLIAM T. KELLY, JR.,** now president of the company's Kellogg Division. Batchelder is a native of North Reading, Mass., and finished Phillips Andover Academy in 1922. He was graduated from Yale University in 1933 and has been with American Brake Shoe since 1933. He obtained military leave from the company to join the Army Air Corps in 1941.

R. W. Batchelder

ROGERS LACY, Longview, Texas, producer and natural gas distributor, has organized the firm of Rogers Lacy, Inc., with a capital stock of $30 million. It is a Delaware, corporation, and has been issued permit to operate in Texas.

• • •

CLAUDE A. WILLIAMS of Austin, Texas, and **J. T.** and **T. H. WILLIAMS** of Longview, Texas, have organized the Trans-Continental Gas Pipe Line Company.

• • •

DON GILMAN, executive vice president of Western Oil and Gas Association, recently attended the petroleum industry public relations conference called by the American Petroleum Institute in New York.

• • •

J. D. WRATHER, JR., Texas oil man, has arrived in Hollywood where he will organize the J. D. Wrather Picture Corporation, which will make commercial, religious and entertainment films.

• • •

R. I. PLOMERT, JR., tax counsellor for General Petroleum Corporation, represented his company at the recent real estate and tax meeting of Socony-Vacuum Oil Co. at Dallas.

• • •

WILLIAM H. COLLINS, former assistant director of materials division of PAW, became assistant sales manager for Cameron Iron Works February 1. In 1925 he withdrew from the University of Texas to work as a roughneck for Shell Oil Company and later served as field superintendent for that company in several of its Gulf Coast fields. Leaving Shell in 1935, he spent five years in leasing and royalty work, oil tool sales, and as a consultant in oil production. Collins represented Gray Tool Company in Louisiana for a while and was later associated with the Arrow Drilling Company in Mississippi as a driller, leaving that position to serve as an analyst for the Petroleum Administration for War in Washington.

Wm. H. Collins

• • •

LYNN H. GALEENER, for five years with Houston Oil Field Material Company, has been appointed chief directional drilling engineer in charge of HOMCO's directional drilling services. He has had 12 years experience in directional drilling and is thoroughly acquainted with all phases of these highly specialized operations. Previous to association with HOMCO, he spent four years with The Fullgage Tool Company, operating directional drilling tools of the same type he now will supervise in operation. His appointment became effective January 15.

L. H. Galeener

• • •

FRANK M. BROOKS, Wichita, Kansas, has resigned as head of the geological department of Bridgeport Oil Company, Inc., Wichita, to join El Dorado Refining Company, El Dorado, Kansas. Before joining Bridgeport Oil in 1943, Brooks was employed by the Gulf Oil Corporation for nine years.

• • •

CLYDE T. FOSTER has been elected vice president of Standard Oil of Ohio; **EDWARD F. MORRILL** has been elected vice president of Sohio Pipe Line Company and **RICHARD C. SAUER** elected vice president of Sohio Petroleum Company.

• • •

A. T. RYLANDS, engineer with Shell Oil Company, has been transferred from Tulsa to Oklahoma City.

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MEN IN THE INDUSTRY NEWS

J. E. HALL, JR., recently separated from United States Army Transport Command with the rank of captain after serving several years as a pilot in the ATC in Canada, has been appointed manager of the Weatherford Plant of Weatherford Spring Company, manufacturers of oil well completion equipment and tools. Son of the company's founder, he was previously employed by Superior Oil Company for four years during which time he worked in California and Louisiana. Prior to entering the Air Corps, he spent a short time with Weatherford Spring Company.

J. E. Hall, Jr.

* * *

BURT POWELL, former news editor of Caterpillar Tractor Company, Peoria, Ill., has returned to the company as a member of the sales department following four and a half years of service in the U. S. Navy. A veteran of the first world war, Commander Powell entered World War II as a lieutenant in March, 1941, and saw action while aboard the escort carrier U.S.S. Coral Sea in the Pacific. Following his return to the States after an injury at sea he became Aide to the Commodore at Great Lakes Naval Training Center. He has been associated with "Caterpillar" since 1935.

Burt Powell

W. D. MORRIS, recently released from the U. S. Army Air Corps and former division engineer for Union Producing Company, has been named chief engineer of the Oil Field Machine and Supply Company, Houston. A graduate from the University of Oklahoma in 1936 with a degree in petroleum engineering, he joined Union Producing Company where he remained until 1941 when he and associates formed the Production Engineers. In 1942, he entered the Air Corps and was assigned duty with a radar control unit. He served in New Guinea and the Philippines for 23 months with an Army Air Corps fighter control unit attached to the Navy for support of amphibious forces.

W. D. Morris

* * *

W. B. WOODY, for nine years chief engineer of Franks Manufacturing Corporation, has been elected vice president in charge of engineering. He assumed charge of the engineering department upon joining the organization in 1936 and has enlarged the staff to its present group of 18 full-time employes. During his nine years with Franks, he has been instrumental in many of the outstanding developments on oil field equipment. A great deal of his work as chief engineer has been in the development of the present line of truck mounted drilling equipment. Also under his jurisdiction was the first Franks skid drilling rig designed with a derrick.

* * *

EDWARD V. O'ROURKE, professor of petroleum engineering at The Ohio State University, will remain in that position and will not head a new petroleum school at Marietta, Ohio, as reported recently. Illness prevented him from taking this assignment.

Deaths

CHARLES ROSS DUTTON, 70, oil operator and drilling contractor and son of a pioneer Ohio oil man, died February 23 at Corpus Christi, Texas. He was born in Machsburg, Ohio, where he was associated with his father in the drilling contracting business. He later moved to Oklahoma and was active in the Drumright and Oilton areas after which time he served five years as drilling superintendent for the Texas-Pacific Coal and Oil Company at Ranger, Texas. Later, he was independently engaged in the drilling contracting business throughout West and East Texas.

* * *

ANDREW McDONALD HAZZARD, division superintendent of Shell Oil Company's Coastal producing division in Ventura, Calif., died March 3. A native of San Benito, Calif., and a graduate of University of California, Hazzard joined Shell in 1923 at Long Beach, Calif. He remained with Shell until his death, holding various positions in Long Beach, Los Angeles, Bakersfield, Oilfields and Ventura, and occupying a key post in Shell's vital war production of crude oil.

* * *

GEORGE O. BAIRD of Shreveport, for nearly 30 years an independent oil operator, who served three terms as president of the Arkansas-Louisiana division of the Mid-Continent Oil and Gas Association, died February 28.

* * *

E. C. KINCADE of Houston, vice president of Gulf Refining Company, died March 5. Kincade had been associated with Gulf since 1907.

* * *

ARCH L. SMITH, 69, retired independent oil producer and drilling contractor of Tulsa, died March 1. A native of Pennsylvania, Smith came to Tulsa in 1907 and was connected with the Frick-Reid Supply Company for many years before going in business for himself.

J. HOWARD COURTNER, 40, assistant general manager of Dowell Incorporated at Tulsa, died February 22 in Chicago. He had been in the employ of Dowell since August, 1934, and had advanced with the organization from treating engineer to station manager at Hobbs, N. M. In April, 1939, he was named district manager of the Salem, Illinois territory, and in January, 1945, he was transferred to the general office of the company located in Tulsa where he held the position of assistant general manager.

* * *

JOHN E. FARRELL, 54, native of England died February 28 in a Fort Worth hospital. A civic leader and philanthropist, he came to this country at the age of 17 and entered the oil business in 1919 as field engineer for the Seaboard Oil Company at Scottville, Ky. Later, he went into business for himself in Dallas, San Angelo and Abilene before going to Fort Worth in 1928.

* * *

C. R. JOHNSON, 58, former Tulsa oil lease broker, died in Compton, Calif., February 27. Johnson moved to California from Tulsa in 1944.

* * *

FRANK B. LONG, Tulsa, vice president of Oklahoma Natural Gas Company and former newspaperman and banker, has retired from the company after 20 years service. Long has been in charge of the company's land and lease department for the greater part of his connection there.

* * *

CHARLES ROSS DUTTON, 69, pioneer Ohio oilman, died in Corpus Christi, Tex., February 24. Born in Macksburg, O., he was a producer, contractor and lease man in his native state, Texas, West Virginia, Oklahoma and Old Mexico.

MANUFACTURERS' NOTES

Rockwell Plant Managers Discuss Common Problems

Operating heads of the divisions and subsidiaries of Rockwell Manufacturing Company met recently, in Pittsburgh, to coordinate their diversified manufacturing, engineering, research, purchasing and marketing facilities.

W. F. Rockwell, Jr., vice president and general manager, explained that the expanding peacetime production of the company's widely scattered plants made it difficult for the plant managers to keep fully abreast of the new developments within other plants.

Discussion was had of all management problems the plants have in common—sales, advertising, research, purchasing, industrial relations, accounting and interplant production.

"Free exchange of information on these problems helps us stabilize employment at the highest level in all plants, lowers manufacturing and distribution costs, expands our markets, and short cuts engineering and research projects. What one plant might otherwise spend thousands of dollars to learn, can be taken from the experience of another unit," Rockwell declared.

Four Wheel Drive Announces Recapitalization Program

The Four Wheel Drive Auto Company has announced a recapitalization program consisting of the sale of 14,233 new shares of stock to be followed by a stock allotment of 100,000 shares, according to Walter A. Olen, president of the company. Capitalization of the company, after distribution of these two blocks of stock, will be 300,000 shares with a par value of $3 million. Prior to the stock sale and allotment, capitalization of the company was for 185,767 shares with a par value of $1,857,670.

When the recapitalization plan is completed, The Four Wheel Drive Auto Company will have the largest par value common stock of any independent truck company in the United States, Olen said. It will also have a capital surplus of over $175,000 and an earned surplus of over $2 million.

Tulsa Winch Company Acquired By Vickers, Inc., of Detroit

The Tulsa Winch Manufacturing Corporation, Tulsa, has been acquired by Vickers, Inc., Detroit, and will be known as the Tulsa Winch division of Vickers, Inc., according to Harley L. Pray, president of the Tulsa firm.

The present management will remain unhcanged. Officers of Vickers, Inc., who now occupy similar positions with the Tulsa Winch division include Harry F. Vickers, president; K. R. Herman, vice president and general manager, and J. F. Forster, treasurer, all of Detroit, and Walter Pohl, vice president, Tulsa.

Tulsa Winch is a large manufacturer of winches for trucks and tractors and during the war was awarded the Army-Navy "E" for excellence in performance in making winches for the armed forces. The company will continue to manufacture the same line of equipment.

Vickers, Inc., is a subsidiary of Sperry Corporation.

B. F. Goodrich Starts Work on Ohio Research Laboratories

The B. F. Goodrich Company has broken ground for a new research center. The research laboratories will be erected on a 260-acre tract almost exactly half way between Akron and Cleveland, near Brecksville. Present plans call for five air-conditioned buildings of gray brick.

Outstanding characteristics of the new laboratories will be the adaptability for rapid conversion from one type of work to another. Removable partitions, interchangeable fixtures and a wide variety of special services will be employed.

"It will be possible to change the whole interior arrangement of most of the buildings overnight. We can be engaged in extensive carbon black research one day in a chosen space and within 48 hours be switched over to research on textile fibers, fine films, or plastics in the same laboratory location," Dr. Howard E. Fritz, director of research, said in illustration.

The building site was chosen primarily because of its freedom from dust, cross-country electric lines, vibration and noise, he said. Quarantining of vibration so that the most delicate operations can be carried out has been a special objective, accounting for the separation of the laboratories into five buildings and removal of the whole research project from proximity to any industrial or manufacturing operations.

Brown & Root Announce New Petroleum Division

Brown & Root, Inc., one of the oldest firms of engineers and constructors in the Southwest, have announced the expansion of their industrial services through the creation of a petroleum and chemical division, specializing in the design, engineering and construction of process plants for the oil, gas and chemical industries.

The firm has done a wide range of work in these fields for more than a decade, including construction of chemical plants, compressor stations, pumping stations, pipe lines, gathering systems and the rendering of general utility services.

The new division will round out the firm's services in these fields, by enabling it to perform every step in the creation of process plants, from plant location studies, through engineering design, construction and operation, to completion.

Offices for design and engineering and shops for fabrication work of the new division will be located at the Greens Bayou plant of the Brown Shipbuilding Co., Inc., Houston, and will be in addition to the yard's shipbuilding, ship repair and drydocking services and steel fabrication which will continue.

Lisbon Making Hoists

Lisbon Hoist & Crane Company, Lisbon, O. is now manufacturing a complete line of electric cable hoists. These hoists were developed during the war and are said to represent several important improvments in the hoist field.

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